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## NEWS SUMMARY

### GENERAL

#### Israel lifts ban on land buying

Israelis will be allowed to buy land in the occupied West Bank and Gaza Strip, the Israeli Government has ruled.

The move reverses the law forbidding private Israeli citizens from land purchase in the area which is destined to become an autonomous Palestinian region under the Camp David peace treaty.

It appears unlikely, however, that many Palestinians would be willing to sell, Jordan, which formerly ruled the West Bank, regards the sale of any West Bank land as a capital offence.

### Labour struggle

Left-wing activists are pressing for representatives of local constituency parties to play a full part in the proposed inquiry into the Labour Party's structure and organisation. The move is the latest in the struggle between Left and Right for control of Labour. Back Page.

### President quits

Afghanistan's first Minister, Baburullah Amin, has taken over leadership of the country from President Nur Mohammed Taraki because of Taraki's poor health, Kabul Radio reported.

### Botha backlash

South African Premier Pieter Botha today faces a right-wing backlash within the ruling National Party against his administration's cautiously reformist approach when he opens the party's Transvaal Provincial Congress. Page 2.

### Pope's venue

The key address of Pope John Paul's visit to Ireland at the end of the month is expected at Drogheda, 30 miles south of the Ulster border.

### TV plan backed

The Independent Television Companies' Association welcomed Home Secretary William Whitelaw's framework for a fourth television channel, and backed his rejection of competitive advertising to gain revenue.

### UN man quizzed

United Nations diplomat Prince Alfred Zure-Lippe-Waisensfeld arrived in Geneva to discuss with senior officials how he acquired valuable antiquities seized from his Nicola home by Cypriot police.

### Rugby threat

Anti-apartheid campaigners have threatened to place "under siege" the South African Barbarians if the Government allows the rugby team's planned tour of Britain to go ahead.

### Tennis death call

British Davis Cup tennis champion Paul Hutchings disclosed in Rome that there had been anonymous threats against the life of a member of members of his team, Britain lost the European zone A final 4-1 to Italy. John Barrett, Page 17.

### Briefly

Beasts badly damaged two Government buildings in Paris, but no casualties were reported.

Eight East Germans—four of them children—died in West Germany in a hot air balloon.

London Maritime Holdings chairman Geoffrey Bradman has given £13,500 to World Vision for its Vietnamese boat people rescue mission.

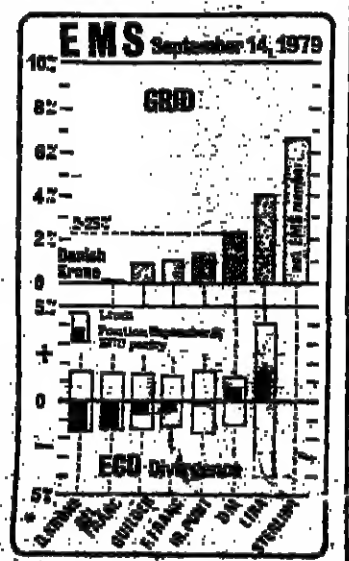
Remains of Duchess of Nemours, a first cousin of Queen Victoria, have been exhumed from a church in Weybridge, Surrey, and taken to France.

John Pritchard is to succeed Sir Charles Mackerras this autumn as chief guest conductor of the BBC Symphony Orchestra.

### BUSINESS

#### Danish move to aid krone

THE DANISH National Bank has raised its discount rate by 2 per cent to 11 per cent from today in an attempt to relieve the pressure on the krone in the European Monetary System. Substantial support was given to the Danish currency by the Danish Central Bank and the German Bundesbank during the week as the krone fell below its lowest permitted limit against the D-mark under the terms of the EMS. Other members continued to suffer from the strength of the D-mark. Paris interest rates rose sharply as a result of action by the Bank of France, and on Friday the French authorities sold 200 million francs to defend the franc. Rumours of an impending revaluation of the D-mark within the EMS contributed to a sharp fall in sterling, which declined to its lowest level since the end of June.



The chart shows the two currencies on exchange with the European Monetary System, the 'grid' of cross rates from which no currency (except the line) may move more than 2.5 per cent, and the varying degrees by which each currency has deviated from the central rate against the European Currency Unit (ECU), itself a basket of European currencies. The line always shown by reference to the weakest currency in the system, which is the line in the top chart.

### OECD should take a leading role

in the development of international accounting standards, according to the report of an inter-Governmental working party which will be discussed at an OECD meeting in Paris this week. Back Page.

### PUBLIC SECTOR share of expected total output over the next 18 months is likely to show little change from current levels, when expenditure plans for 1980-81 are revealed in the next two months. Back Page.

### SHARP divisions among industrialists over the impact of the Government's economic policies on business prospects are emerging among resolutions being lodged for the CBI's annual conference in November. Back Page.

### GROWING LABOUR shortages are the main reasons for the UK's low industrial output, with North Sea oil and gas the only real growth areas, a manufacturing report on South-East England warns. Back Page.

### AGRICULTURAL engineering industry and the Department of Industry have agreed a £1m project to develop a medium-sized farm tractor in Britain. Back Page.

### LONDON'S dockland development plan for the establishment of an urban development organisation has been criticised by leading Labour politicians as likely to cause delay and discourage investment. Page 4.

### CIVIL SERVICE unions have told their Defence ministry members not to co-operate in manpower cost studies by the department. Page 4.

### EUROPEAN MANAGEMENT Cup was won in Paris by an Irish champion team from Irish Cement. Page 2.

## Nkomo says Front may accept reserved seats for whites

BY BRIDGET BLOOM AND MICHAEL HOLMAN

The Patriotic Front is prepared to accept British demands that Rhodesia-Zimbabwe's 250,000 white minority should have specially reserved seats in a new Parliament. But there are signs that the Muzorewa Government is itself divided on this issue.

On the eve of the second week of the Lancaster House talks, Patriotic Front co-leader Mr. Joshua Nkomo declared that his party was in principle opposed to special privileges for whites. For this reason, he said, the Front's outline constitution submitted to the conference on Friday contained no such provisions.

But if in the current constitutional negotiations Britain "wants to introduce racism" by insisting that the white minority should have reserved Parliamentary seats, "then they will have seats," Mr. Nkomo said.

Mr. Nkomo's remarks were made a few hours after Bishop Abel Muzorewa, leader of the Salisbury delegation to the talks, had given Rhodesian whites a broad hint that his delegation, too, was prepared to make compromises on a future constitution.

Under a direct black leadership, he said in a radio broadcast to Rhodesia, whites had nothing to fear. The example of Kenya showed that what whites "considered as safeguards were not really important after all."

However, hopes that the second week of talks in Lancaster House might see agreement on a constitution were severely tempered last night by the fundamental differences which remained between the two sides.

There was no immediate reaction to these proposals from the Salisbury delegation. But in his weekend broadcast Bishop Muzorewa had repeated his "strong reservations" about even discussing let alone agreeing to interim arrangements.

"We will not discuss issues

## Boost for wealthy under Labour

By Peter Riddell, Economics Correspondent

THE distribution of personal wealth in the UK became more unequal under the last Labour Government than had previously been believed.

This is indicated by Inland Revenue Statistics for 1979, published this morning. The figures also show the relatively small number of people paying tax at the top marginal rates before the Budget changes.

The most wealthy 10 per cent of the adult population increased their share of total personal wealth from 57.5 to 61.1 per cent between 1974 and 1977. At the same time the

### DISTRIBUTION OF PERSONAL WEALTH

Percentage of total wealth in UK owned by most wealthy sections of adult population

Most wealthy	1971	1974	1977
1	36.5	22.5	24.0
2	38.7	29.6	32.2
3	5.1	4.1	4.4
4	4.1	4.1	4.1
5	8.5	8.6	8.9
50	97.2	92.9	95.0

Source: Inland Revenue Statistics

share of the least wealthy 50 per cent fell from 7.1 to 5 per cent. This was in contrast to the period of Conservative Government in the early 1970s when the distribution of wealth became slightly more equal.

The paradox can be partly explained by the sharp fall in ordinary share prices in 1973-1974 and the subsequent big recovery in 1975-76. This is because only the richest few per cent of the population have significant holdings of ordinary shares.

The new 1977 estimates confirm the findings of the recently wound-up Diamond Commission on the Distribution of Income and Wealth, whose figures went up only to 1976. Those showed that, while the share of wealth of the top 10 per cent had stopped declining since the mid-1970s, there had still been a very large fall in the last 20 years.

The estimates are based on capital transfer tax statistics which do not include the values of accrued pension rights or other non-marketable assets. The new statistics also show that only 36,000 married couples or single people were liable to income-tax at a marginal rate of 85 per cent in 1977-78. This

Continued on Back Page

## Oil effects worse than feared—IMF

BY JUREK MARTIN, U.S. EDITOR, IN WASHINGTON

THE GOVERNMENTS of the major industrialised countries have little alternative but to continue to employ the same policies which have, over the last three years, failed to improve the global economic position, the International Monetary Fund has concluded in its annual report, published in Washington yesterday.

They will have to do so in a markedly deteriorating economic climate. The IMF finds that the impact on both inflation and growth of this year's round of oil price increases has been greater than previously estimated.

It is widely felt that the economic calculations contained in the annual report, which was drawn up in mid-summer, may already be outdated. The IMF's board met last week to consider a draft report on the world economic outlook which will be presented to the annual meetings of the IMF and the World Bank in Belgrade at the start of next month. This one, it is understood, is even more pessimistic than the report released yesterday.

The IMF baldly states that the "gradualist" approach it has prescribed since 1976 has been "too gradual."

The reasons for the failure are many, the report says, "but perhaps the basic one has been the pursuit of policies that have failed to make a dent in inflationary expectations." The IMF

Continued on Back Page

## Talks today on Britain's EEC payments burden

BY GUY DE JONQUIERES, COMMON MARKET CORRESPONDENT

BRITAIN WILL urge its EEC partners today to decide soon on measures to achieve a rapid reduction of the mounting deficit on its contributions to the European Community budget.

Sir Geoffrey Howe, Chancellor of the Exchequer, will tell other EEC Finance Ministers in Brussels that there can now be no denying that there is a substantial gap between what the UK pays to Brussels and the sums it receives in the shape of Community spending.

The Chancellor will emphasise that his Government's own calculations are backed up by a new report from the European Commission. This forecasts that Britain's net budget contributions will exceed £1bn next year, making it by far the biggest net contributor.

### Farm prices

The Finance Ministers are also due to discuss the operation of the European Monetary System (EMS) which is supposed to be reviewed formally this autumn.

Britain's net budget payment next year may be swollen further

### North Sea oil

In recent bilateral discussions with the British Government, the French authorities are understood to have made clear that they are reluctant to offer any budget concessions unless the UK is prepared to grant France privileged access to North Sea oil.

### Drawing up

No firm decisions are likely to emerge from today's meeting, which is intended to guide the European Commission in drawing up specific proposals for budget reforms. These will be discussed by EEC government leaders at their next summit in Dublin at the end of November.

The ministers will also seek to align their positions before the annual meeting of the International Monetary Fund in Belgrade in 10 days' time.

Britain's share of the EEC budget, Page 18

## U.S. turns down Chrysler's formal request for \$1.2bn aid

BY JUREK MARTIN, U.S. EDITOR, IN WASHINGTON

THE U.S. Government has dismissed as "way out of line" Chrysler's first formal request for \$1.2bn (£570m) in immediate and stand-by federal loan guarantees.

However, both Mr. G. William Miller, the Treasury Secretary, and Mr. John Riccardo, the acting car company's chairman, held out the hope that further negotiations would be successful.

The union and GM reached a

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## OVERSEAS NEWS

## Hong Kong growth forecast at 12 per cent

BY PHILIP BOWRING IN HONG KONG

Hong Kong's gross domestic product is now likely to grow by 12 per cent in real terms this year compared with an original estimate of 7 per cent, according to Mr. Philip Haddon-Cave, the Financial Secretary.

This would make the fourth successive year that growth has been in double figures. But this year, inflation will also be in double figures, with latest estimates of consumer prices rising 11 per cent and prices overall by 14 per cent.

The better than expected growth rate has been made possible largely by a dramatic 6.4 per cent increase in the population, compared with an expected 2 per cent due to the newcomers, from China and Vietnam.

The additions to the workforce helped manufacturing industry meet a sharper than expected increase in export demand, particularly from the UK and West Germany, where first half sales showed increases

in real terms of 42 per cent and 28 per cent respectively. These have more than offset weakness in the U.S. market.

Overall domestic exports are now expected to rise 13 per cent in real terms, and re-exports at 27 per cent.

Imports, according to Mr. Haddon-Cave, are likely to rise less quickly, leading to some improvement in Hong Kong's currently very large merchandise trade deficit.

Exports have been helped by the sharp decline in the Hong

Kong dollar and reduced pressure on wages as a result of the labour inflow.

Mr. Haddon-Cave criticised the inflow as impeding adjustment and elimination of excess demand, but without it the badly needed shift of resources to exports could not have taken place. Domestic demand has remained at a very high level, fuelled by 40 per cent plus rate of bank lending increases.

The tenor of Mr. Haddon-Cave's speech was generally

more optimistic than of late, suggesting that the economy is on the way back to equilibrium after a period of rapid inflation and currency weakness.

However, he glossed over the chief economic topic here at present—the banking sector and the continuation of large month-to-month lending increases.

Many had been expecting the announcement of new liquidity and other provisions for banks and deposit taking companies. But these are still under review.

## Attitudes harden in Rotterdam port strike

By Charles Batchelor in Amsterdam

THE STRIKE of tugboat crews and dockers which has severely hampered cargo movements in the port of Rotterdam for the past 3½ weeks shows no signs of coming to a speedy end. The strikers' attitudes hardened over the weekend, with both groups calling at separate meetings for an extension of the strike.

The stoppage, involving about 500 men manning tugs belonging to the port's largest operator and more than 7,000 dockers, has badly hit general cargo handling in the inner port basins. Many vessels have been diverted to other ports and others have been forced to negotiate the 12-mile-long estuary without assistance.

More than 300 of the tugboat men yesterday decided to extend their action. The committee co-ordinating the dockers' strike was due to meet yesterday evening to decide on further moves after a mass-meeting of 2,500 dockers voted to extend the strike on Saturday.

The strike, the most bitter in recent Dutch labour history, has provoked scuffles on picket lines and has brought calls for tougher action by the police to prevent violence. Officers of mediation by the Socialist Mayor of Rotterdam and from Mr. Wim Kok, the leader of the FNV trade union federation, have been rejected.

## Grain stocks at four-year low

WASHINGTON — World grain stocks will fall to the lowest level in four years by June 30 next year, according to a Government report released yesterday.

The U.S. Agriculture Department report predicted that world grain stocks would drop to 189m metric tons on that date, well below the 227m tons at the end of June this year.

"The world grain outlook has tended towards slightly smaller supplies. With continued strong demand worldwide, stocks are forecast to decrease slightly more than indicated in August," the report said.

It adds that world grain production in the 1979-80 crop season would fall to 1.38bn tons from the record of 1.44bn tons produced in the preceding year.

While grain output would increase this year in the U.S., crops in the Soviet Union and India have been badly damaged by adverse weather.

The Department predicted that world grain trade would set a record, exceeding 200m tons in the 1979-80 season, because of strong overseas demand.

World wheat production was now expected to total about 400m tons, down slightly from the last estimate, but still the second largest crop on record. It said.

World coarse grain production would total 729m tons this season, off from last year as a result of smaller crops in the Soviet Union, western Europe, Canada and Australia, the Department said.

## Ireland wins management cup

THE EUROPEAN Management Cup was narrowly won in Paris this weekend by the national champions of Ireland, a team of six accountants and planners from Irish Cement. Michael Dixon writes. The winners finished the two-day, computer-based contest with a profit of £5.4m—only £51,000 ahead of the Swedish national team.

France, the previous European champions, were knocked out in the semi-final by Neil Tomkin, the UK title-holder, who played single-handed. In the final, Mr. Tomkin, profit improvements manager of Rank Xerox, could manage only fourth place behind the Danish national side. The contest was the seventh European management championship in the series which developed from the national competitions originated in 1970 by the Financial Times.

## Australian poll

ADELAIDE — A powerful swing by South Australian voters to the Liberal Party looked like ending 10 years of Labor Government in the state yesterday. The snap election was called by the Labor Premier Mr. Des Corcoran who took over as Premier last February, succeeding Mr. Don Dunstan, who resigned because of ill health. Reuter.

## Rupee rate.

NEW DELHI — India yesterday raised the value of the rupee by 1.4 per cent against the pound. The new rate, set by the Reserve Bank of India is 17.75 rupees to the pound against the former rate of 18 set on July 18 when the rupee was devalued by 1.39 per cent. Reuter.

## Israeli cabinet agrees to West Bank land sales

BY DAVID LENNON IN TEL AVIV

THE ISRAELI Government decided yesterday that Israelis will be allowed to buy land in the occupied West Bank and Gaza Strip, which are destined to become a Palestinian autonomous region under the Camp David peace accords.

At the same time, the Cabinet stated that this would not entitle the purchasers to build Jewish settlements on the land without Government permission.

The reasons for the decision were not immediately known, and it appears highly unlikely that many Palestinians would be willing to sell. Jordan, which formerly ruled the West Bank, regards the sale of any land there to Israelis as a capital offence.

There have been some cases where land was sold to public institutions by West Bank people who then emigrated to avoid the wrath of their fellow Palestinians. Until now, private Israeli citizens were prohibited from buying land in the occupied territories.

The Government is facing increasing pressure from Jewish settlers to expropriate more land for them. Settlers whose villages were built in the midst of privately-owned Arab land have been most vociferous in demanding that land be made available.

The Cabinet also rejected an appeal by Prof. Yigal Yadi, the Deputy Prime Minister, against a recent Cabinet decision to build two new Jewish settlements on the West Bank.

It was announced yesterday that work had been completed on an approach road to a new settlement east of Jerusalem and that a number of caravans

had been moved on to the site. The settlement is being built on land seized from the Arab village of Anata. The High Court yesterday rejected an appeal by the Palestinian villagers against the expropriation of the land.

Meanwhile, the police detained one Arab in Jerusalem in connection with the murder on Saturday night of an Israeli whose car broke down in Arab East Jerusalem. The police say they are certain the shooting was the work of Palestinian guerrillas.

Jurek Martin adds from Washington: A decision on the possible joint production by Israel and the U.S. of a shifter aircraft will be taken in the next two to three months. Mr. Ezer Weizman, the Israeli Defence Minister said here.

After talks with U.S. officials, principally Mr. Harold Brown, the Secretary of Defence, Mr. Weizman denied that Mr. Brown had told him that the U.S. would back such a proposition. He also refused to comment on which aircraft might be involved, though speculation here has centred primarily on the F-16 and F-15.

Mr. Weizman also confirmed that Israel was asking the U.S. for \$1.8bn in assorted military aid in the next fiscal year, a sharp increase on the existing \$1bn programme. But he added that he did not expect to get all of the increment. Israel, he argued, had not come up with a new arms shopping list over and above what he had discussed with Mr. Brown last February.

## PLO hopes rise for Spanish recognition

BY DAVID GARDNER IN MADRID

MR. YASSIR ARAFAT, chairman of the Palestine Liberation Organisation (PLO) left Madrid visibly satisfied with the results of his official visit.

In the short term Spain is likely to raise the PLO delegation here to full diplomatic status. Much significance was attached during the visit to a flag-raising ceremony at the PLO offices, and to Mr. Arafat's being permitted to fly the Palestinian flag on the official car loaned him by Sr. Adolfo Suarez, the Spanish Prime Minister.

Both sides stressed the special relationship between Spain and the Arab world, while Mr. Arafat said that Spain was a key bridge in the dialogue opening between Europe and the Arabs.

The Spaniards are satisfied that the initiative has immeasurably strengthened their negotiating hand with Arab countries and that this will pay off in both diplomatic and economic terms.

Reuter adds from Rabat: Mr. Arafat was reported to be



Yasser Arafat

undertaking a mission of mediation in the Western Saharan conflict during his visit to Morocco. On arrival, Mr. Arafat said only that his visit was part of consultations with Arab States about the present situation in the Arab world.

FINANCIAL TIMES, published daily except Sundays and public holidays. Subscription rates: £35.00 per annum. Second class postage paid at New York, N.Y. and at additional mailing centres.

## CONTRACTS AND TENDERS

## JAMAICA PUBLIC SERVICE CO. LTD. KINGSTON, JAMAICA

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The Jamaica Public Service Co. Ltd. (JPS) has received a loan from the World Bank in various currencies, equivalent to twenty (20) million U.S. dollars and intends to apply the proceeds of the loan towards the purchase of materials and services for expansion of its transmission and distribution system.

JPS announces that international bids will be received for the supply of materials and equipment and erection works for the following transmission lines and substations:

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  - Bellevue—138/69 kV—40 MVA
  - Duncans—138/69/24 kV (extension)
  - Tredegar—138/69 kV (extension)
- Transmission Lines—Contract No. WB-151
  - Duncans/Bogue—42 km
  - Tredegar/Bellevue 40 km
  - Oranbessa/Annotto Bay—22 km

Bids are invited from Suppliers/Erectors located in the member countries of the World Bank and Switzerland. Bidders may tender on one or more material supply schedules or erection works or combination of both in the above contracts.

Bidding documents will be available for purchase beginning September 5, 1979 upon payment of a non-refundable sum of U.S. dollars 300.00 or equivalent currency for each set of documents required. Intending bidders are required to contact:

The Manager — Purchasing/Stores  
Jamaica Public Service Company Ltd  
6, Knutsford Boulevard  
Kingston, Jamaica  
Phone: 926-3190  
Telex: 2180 JAMSERV

or  
E.L.C.—Electroconsult  
Consulting Engineers  
Via Chiaia, 8  
20151 Milano, Italia  
Phone: 306502  
Telex: 321103 MILELC

The tender closing date is November 15, 1979 and bids are to be submitted to the Manager-Purchasing/Stores Jamaica Public Service Company Limited at the above address.

Bellotto: Picture of old Munich



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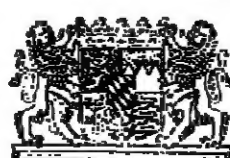
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WORLD TRADE NEWS

# Across the board import curbs urged for Britain

BY PETER RIDDELL, ECONOMICS CORRESPONDENT

IMPORT CONTROLS should be imposed either by imposing a uniform tariff or by auctioning such foreign exchange as can be afforded for imports, according to Mr. Wynne Godley, a leading Cambridge economist.

Mr. Godley, the director of the Department of Applied Economics at Cambridge, has been one of the leading advocates of protectionism in the UK. He defines his position in an article in the latest edition of stockbrokers Vickers da Costa's regular British economy review.

He maintains a total opposition to the use of quotas or tariffs imposed selectively to protect companies and industries that are failing, particularly if such a policy is adopted in the context of general stagnation and in isolation from a coherent macro economic strategy to achieve full employment. He regards "most of the arguments habitually used against this kind of protection as valid ones."

Instead, his main propositions are that under any strategy imports must be kept to what the country can afford. If the adverse trends in UK trade continue without remedial intervention, the only way of doing this will be progressively to deflate the economy.

However, if action is taken to reduce the UK's propensity to import below what it otherwise would have been, but not the total level of imports, then domestic demand can be permitted to expand within the limits of productive potential. This would avoid chronic recession and growing unemployment.

## BP bid to build £100m N. Zealand gas plant

By Sue Cameron, Chemicals Correspondent

BRITISH PETROLEUM is understood to be one of three companies competing for the chance to build a £100m methanol plant in New Zealand, using gas from the offshore Maui field as a feedstock.

Petrocorp, the New Zealand state energy company, and Mobil, the U.S.-based oil group, are believed to be working on rival schemes of their own.

Last week the New Zealand Government declared that it had decided to earmark the Maui field's gas reserves for a methanol plant with an annual capacity of between 600,000 tonnes and 825,000 tonnes.

The announcement ended the Shell group's hopes of building a liquid natural gas (LNG) plant based on Maui reserves in the near future. The Maui field would not at present be able to support both a methanol and an LNG plant.

The New Zealand Government expects the projected methanol plant to come on-stream in 1985-86. The intention is that half the production from it will be exported. Much of the remainder will be used to help to make New Zealand 50 per cent self-sufficient in fuels by the late 1980s.

Mr. William Birch, the Energy Minister, has been empowered to start negotiations immediately with those companies whose proposals are sufficiently far advanced to enable the final design phase of the plant to start this year.

BP's proposed scheme is thought to involve the building of a plant at New Plymouth, where gas from the Maui field, which has estimated recoverable reserves of 6.9 trillion (million million) cubic feet, is already being piped ashore.

BP's plan is that methanol not exported should be added to petrol.

## Brazil sets ambitious export target

BY DIANA SMITH IN BRASILIA

THE BRAZILIAN Government has proclaimed an ambitious export target for 1984 — \$40bn (£16bn) worth of goods and services, 266 per cent more than this year's forecast exports of \$15bn.

Undeniably, Brazil's export drive has worked in recent years. Overseas sales doubled between 1974 and 1978, from \$6bn to just over \$12bn, with manufactured goods, that year, accounting for over half of exports, whereas earlier in the decade their impact was minimal.

However, Javahri Government tax incentives to manufactured exports and punitive tariffs on imports gave Brazil's foreign trade a controversial reputation, and the proliferation of bureaucratic bodies and red tape often frustrated exporters.

Having inherited the commitment of the Geisel Government to GATT, implying phasing out export incentives and import restrictions, the new Figueiredo Administration has now set about streamlining foreign trade. This week, it revived the defunct Foreign Trade Council (Concex).

This time round, Concex will not be a rigid Government body. Although it is presided over by the Finance Minister, Sr. Carlos Rischbieter, with the Ministers of Foreign Affairs, Industry, Agriculture, Energy and Transport sitting on the board, the private business community (at Sr. Rischbieter's instigation) will be represented in the person of Sr. Paulo Vellinho (director of Springer Admiral) and three leading businessmen as board members.

Apart from defining overall trade policies and tactics, especially operations in the complex world of commodities and engineering in the developing nations, Concex will have a go at the 1,470 separate pieces of legislation that bog down exporters and drag them over a route that travels through 13 separate Ministries and 50 civil service bodies.

At the outset, Sr. Rischbieter announced simplification of export manifests, and simpler procedures for exports of spare parts, as well as a new scheme for insuring export credit.

Current economic facts provide ample justification for the Government's resolve to streamline foreign trade: between them the \$7bn Brazil must spend this year on crude oil imports and \$9bn on servicing the \$50bn foreign debt, will exceed estimated 1979 exports by between \$1-2bn.

With its renewed intent to continue rapid development by greatly diversifying industry, Brazil cannot soon decrease essential capital goods and raw materials imports, constantly made more expensive by mini devaluations of the cruzeiro.

Thus, apart from selective discouragement of superfluous imports (Sr. Rischbieter wants to end current "blanket" restrictions) the Government has little choice but to face an annually rising import bill.

Therefore, achieving reasonable trade balances or surpluses through greatly increased exports is seen as the means of easing some pressures on the current account of the balance of payments—now \$8bn in the red.

### SHIPPING REPORT

## Shorter-haul inquiries increase

BY LYNTON McLAIN

THERE WAS a marked acceleration of interest in the oil tanker and bulkcarrier trades last week, although 12m deadweight tons of supertankers still awaited cargoes in the Gulf.

There was an increase in the number of inquiries for tankers for use on shorter-haul trades. The Mediterranean, West Africa and the Caribbean loading areas all had active trading. A 130,000-ton tanker from the eastern Mediterranean to Italy gained Worldscale 125.

For tonnage loading out of West Africa, Worldscale 165/170 was the going rate for discharge in the Mediterranean and the UK/continent zone.

However, in the Gulf brokers forecast that considerable demand would be needed to absorb the excess tonnage. An average of 1m tons of oil cargo will have to be available each day for shipping until the end of September to provide sufficient work for the tonnage now laid up.

Nevertheless, the rates for very large crude carriers in the Gulf remained stable compared with the previous week. VLCCs gained Worldscale 57½ for discharge in the west and for eastern destinations smaller VLCCs gained Worldscale 65 rates. An 80,000-ton vessel was chartered at Worldscale 115.

In most markets, there was an upsurge in the number of charterers seeking period charters, although only a small number reported long-term agreements last week.

On the bulk carrier markets, reports from the U.S. suggest that Russian grain purchases for next year may be about 30m tons. In the raw materials trade, fewer ore and coal vessels were chartered, although the general level of inquiry remained stable.

### World Economic Indicators

	RETAIL PRICES				% change over previous year	Index base year
	Aug '79	July '79	June '79	Aug. '78		
UK	228.3	229.1	219.6	199.4	+15.8	1974=100
W. Germany	152.8	151.6	151.7	145.9	+4.7	1970=100
U.S.	216.9	216.4	214.1	194.7	+11.3	1967=100
France	221.1	219.2	217.4	201.2	+10.3	1970=100
Holland	125.3	124.9	124.9	120.7	+3.7	1975=100
Italy	153.3	151.9	150.4	133.4	+14.9	1975=100
Belgium	133.8	132.7	132.0	127.7	+4.7	1976=100
Japan	127.8	125.7	124.0	123.2	+3.1	1975=100

### THE IMF ANNUAL REPORT

## Call for 'gradual' but not 'too gradual' approach

WHAT FOLLOWS is the "key issues of policy" section of the first chapter of the International Monetary Fund's annual report, dealing with developments in the world economy.

AT THE end of 1978, worries were being felt in many quarters about the international energy picture over the longer term and about fundamental aspects of economic performance, including high inflation, sluggish economic growth, under-utilisation of resources, periodic instability of foreign exchange markets, the difficult situation of the non-oil developing countries, and the spread of protectionist trade measures.

To these factors has been added the steep run-up in oil prices during 1979. The current environment of great uncertainty clearly forebodes a period of severe strains in the world economy, emphasising the need for policies to deal with them.

Of key importance in this regard will be the character of domestic economic policies pursued in the industrial countries. The present array of problems confronting national authorities in the industrial world precludes simple prescriptions offering promise of early success, but rather points to the need for the pursuit of a many-sided strategy of policy in a medium-term framework.

The basic approach must be a "gradual" one, but not "too gradual." It calls for determined and skilful use of the traditional monetary and fiscal instruments, combined with the application of suitable incomes policies (EMG) to prevent oil price increases and other external cost pressures from entering into the indexation, formal or de facto, of wages and other incomes) and increases emphasis on measures to effect structural adjustments and improve supply capabilities, including adaptation to the lower availability and price of energy.

Obviously a strategy of policy along these lines will be difficult to implement—it will require courage and perseverance so as to elicit public support for national economic policies and, above all, to reduce inflationary expectations.

The international setting in which industrial countries will be conducting their domestic economic policies is in the process of changing substantially. At the beginning of 1979 the growth of total output in these countries, after proceeding at a pace of 4 per cent in each of the two previous years, was expected to decline moderately because of an economic slowdown in the United States, a slowdown that was sought by the U.S. authorities and welcomed internationally in view of the need to curb domestic inflationary pressures. Now, it seems clear that the decline in output growth will prove to be much sharper than had been generally expected.

Two developments are important in this respect. First, the oil price increase since the end of 1978 may be expected to have a generally depressive effect on economic growth, both directly through their deflationary impact and indirectly through their intensification of the inflationary process. Second, the course of real Gross National Product in the United States during the first half of 1979 has turned out to be quite weak.

Such a situation raises a number of important policy issues. In the first place, a U.S. recession (whatever its duration or severity) could not be "offset" in the other industrial countries. In general, their economies are not buoyant and, because of either the fact or the threat of inflation, they would not be in a position to adopt significantly more expansionary policies in the endeavour to compensate for a recessionary development in the United States, although they could reasonably be expected to maintain their growth rates as much as possible.

As for the United States itself, a "cooling-off" period of very low growth of output or of declining output would serve to dampen inflationary pressures, but it would not permit any lowering of the priority that has been accorded by the U.S. authorities to the reduction of inflation in a medium-term context.

Indeed, policies to counter recession would need to be very cautious. On the external side, a flattening out or decline in U.S. economic activity would have a positive impact on the current account balance through an easing of the demand for imports. However, the impact on the overall U.S. balance of payments and on the effective exchange rate for the dollar would depend also on the extent to which changes in relative monetary conditions affected capital account positions.

A more general point of significance is that exchange rates for the major currencies would be subject to different influences in a setting of weaker demand conditions, coupled with higher oil prices and continuing inflation. Whether the relative calm that has characterised the exchange markets in recent months would be extended would depend to a large extent on policies. The larger industrialised countries, while keeping their policies attuned to fundamental objectives, might well find it necessary to co-ordinate their actions regarding exchange market intervention—and, at least to some extent, their monetary policies.

To assist developing countries with their external financing, industrial countries in a strong position on current account should take their position as capital exporters. An important area of such improvement must be to ensure a larger stabilising flow of private capital—something that inevitably takes time to achieve but that can be influenced by additional government measures to encourage capital outflows, both directly and through changes in institutional arrangements and practices in the private sector.

In addition, and here immediate action could be taken, there is a strong case for all industrial countries—surplus and deficit alike—to increase their official development assistance.

Considerable scope for improvement of economic conditions round the world lies in a better working of the international adjustment process. The wide differences that characterise the current positions in member countries call for adjustment policies on a broad scale, carefully differentiated on an individual country basis.

As a general proposition, each country should contribute to world economic growth in relation to the strength of its external position and to its price performance. The implications of such an approach—if carried out effectively—are that countries in a relatively strong external position would act to support growth to the extent that it would not jeopardise their anti-inflation programmes, while countries in a relatively weak external position and with high inflation would adopt corrective measures of a fundamental nature to deal with their problems.

In this context, the industrial countries could make a particularly important contribution by co-ordinating their growth objectives and policies over the medium-term. Such a process could serve to bolster economic growth, to safeguard the recent improvement in the distribution of current account balances and thus to promote the maintenance of orderly exchange markets and of reasonable stability in the exchange rates of major countries.

The very difficult conditions now confronting the authorities of most member countries also portray a large, and probably difficult, task for the International Monetary Fund. The role of the Fund is a very broad one, ranging from the conduct of a world-wide forum on economic and financial problems to the provision of financial, consultative and technical services to individual countries.

In the exercise of all its functions, such as those involving the principles of conditionality or of surveillance over exchange rate policies, the Fund must act fairly and even-handedly.

It seems evident that under the conditions that loom ahead, the Fund must be prepared to assist many of its member countries in dealing with their economic and financial problems but, notwithstanding the high priority that has to be given to adjustment, it would appear that claims on the Fund's resources in the next few years could be large.

The Fund has endeavoured to adapt its policies and facilities to the needs of member countries in the changing circumstances of recent years and it is continuing to assess the adequacy of improvements that have been or are being introduced.

### Czech industries faced with technology gap

## Czech industries faced with technology gap

BY LESLIE COLTITT IN BERLIN

CZECHOSLOVAK economies officials say the country's leading export industries are in serious trouble because of their widening technological lag behind the West and soaring costs for fuel and raw materials.

Exports of engineering products, which make up the bulk of Czechoslovakia's shipments to the Soviet Union and other Comecon countries, fell short of planned export targets in the first half of this year.

Economics officials from Prague are echoing recent warnings by the Communist leadership of Czechoslovakia on the country's non-competitiveness in industry.

The Prime Minister, Mr. Lubomir Strougal, has singled out the engineering sector as one of the worst culprits, saying Czechoslovakia must take drastic steps to conserve energy because of the inability of the Soviet Union to meet its oil needs in coming years.

The Czechoslovak economists say there will have to be a major reorganisation especially in the engineering industry after the criticism by Mr. Strougal and the Czechoslovak party newspaper Rude Pravo.

The newspaper recently issued a sweeping condemnation of industrial management, noting that in any wide-ranging changes the work of the manager, the general manager or the Minister should not be overlooked.

The basic problem, the economists say, is that the large series of Czechoslovak plant and machinery exports to the Soviet Union means factories are unwilling and unable to adapt to the individual demands of customers in the West.

The reluctance to adopt new technology in the end also depresses the price level of Czechoslovak goods exported to the Soviet Union and other Comecon countries.

The Czechoslovaks say there will be no economic success along the lines of the successful Hungarian socialist market economy. The Soviet Union would not approve of such reforms only 11 years after the Communist leadership of Mr. Alexander Dubek was ended by the Soviet occupation of the country.

Instead, the economists officials say there is likely to be a move toward greater industrial concentration into units of the type known as kombinats in East Germany, which have greater responsibility for foreign trade.

In the first six months of this year, Czechoslovak industry had production losses of 4.5bn crowns (\$450m) which were partly attributed to severe winter weather.

The growth in industrial production was 1.6 points lower than planned. Most seriously, exports to the Soviet Union, to pay for oil and gas, have been running behind schedule.

The Soviet Prime Minister, Alexei Kosygin, during a visit to Prague earlier this year, criticised Czechoslovakia's inadequate planning for the economic co-operation between Moscow and Prague during the five year plan period starting in 1981.

### Turkey deficit narrows

ANKARA — Turkey's foreign trade deficit narrowed to \$126m in July from \$150m a year ago, the Commerce Ministry announced.

In July imports registered \$272m, down by 44 per cent from June and by 8 per cent from a year ago. Exports were \$146m down by 14 per cent from June and up by 2 per cent from a year ago.

AP-DJ

"That Lufthansa is punctual on long flights didn't surprise me, that Lufthansa is so punctual on short flights did."

This is an authentic passenger statement.





## UK NEWS

## Satellite threat alarms television companies

BY ARTHUR SANDLES

THE PROSPECT of satellite television transmitters beaming down commercial TV programmes to much of western Europe in competition with established national systems is beginning to alarm broadcasting bodies. A space-based Television Luxembourg is seen as a likely reality rather than science fiction.

Speaking at the weekend conference of the Royal Tele-

vision Society in Cambridge, Sir Charles Curran, former director general of the BBC and now managing director of Visnews, a television news agency, said "the prospect of signals from Luxembourg reaching substantial areas of the South East of England is already causing perturbation in commercial television circles in Britain."

Sir Charles believes trans-

mitters in the sky could be in use "within the decade."

"Direct broadcasting controlled by, let us say, Luxembourg or Monaco or Liechtenstein or Andorra or San Marino, will inevitably cover substantially greater areas than the national sovereign territories of those states." Each country had the potential to provide four channels.

Sir Charles added that the

services of these stations "will be dependent financially, and this cannot be denied, on the achievement of major audiences over large areas of the contiguous countries. Theoretically, the over-spill will be unavoidable. It will, therefore, be legitimate."

According to Sir Charles: "The tendency towards national monopoly and con-

trol which has been used, at its best, to safeguard standards of broadcasting over a significant part of Europe, will now be open to direct competition from organisations whose purpose will be to make large profits."

There are at present technical problems about picking up foreign satellite-originated signals as special aerials and sets would be needed.

## Top union officials in bid to solve Vauxhall pay row

BY PHILIP BASSETT, LABOUR STAFF

NATIONAL union officials will meet Vauxhall Motors' representatives today to try and solve a dispute over pay. The dispute has stopped work at the company's Ellesmere Port plant for two weeks, and has disrupted production at its other two factories.

It will be the first direct involvement of national officials in the dispute. A pay dispute at the company last year ended soon after it went to national level, but local shop stewards yesterday were not confident about the outcome of today's talks.

The Vauxhall offer is one of the first major pay proposals of the new round, and is estimated within the company to be worth 17 per cent. It is likely to be closely watched by Ford and other workers who normally set the pace of the round.

The company has not formally met its own union officials since talks more than two weeks ago failed to make much progress. Both sides have agreed not to release details of the developments to the press.

The offer was not substantially improved at those talks, and it was decided to go through the agreed procedure and refer the dispute to national level. But the company did agree to record one of the conditions attached to the offer on performance and working practices.

The condition threatened to withdraw the guaranteed shift payment if flexible working was not agreed in the event of an unofficial stoppage by one section. It was seen as especially contentious, particularly by the more militant Ellesmere Port plant on Merseyside.

The company also indicated at the talks that it was prepared to reconsider its former rejection of the union side's claim for reopening pay negotiations if the cost of living increased markedly.

Some union officials were sceptical yesterday that today's meeting in London with national officials of the Amalgamated Union of Engineering Workers, the Transport and General Workers' Union, and the Electrical and Plumbing Trades Union, could do much that would affect the action at Ellesmere Port.

Chrysler car workers in Coventry meet today over their 11-week pay strike. They are expected to support a shop stewards' recommendation to continue the stoppage.

The 2,000 workers at the Ryton assembly plant and the 3,000 at the Stoke engine plant have been taking action since early July.

The company has warned that because of the dispute the assembly works will close "in a matter of weeks" unless the dispute is ended.

## Ministry of Defence studies anger unions

BY OUR LABOUR STAFF

CIVIL SERVICE unions have instructed members in the Ministry of Defence not to co-operate with a series of studies by the Department into its manpower costs. Union officials say these could lead to hiving-off of key defence work to the private sector.

The Ministry has been exempted from the Government's overall review of Civil Service manpower costs, based on options of 10, 15 and 20 per cent cuts, which the Cabinet is examining.

As the Ministry employs a third of all Civil Service staff, the exemption may affect the size of cuts in other functions and departments, though it is likely to be offset by cuts arising from its internal studies.

Union officials have been angered by the studies, which include examining options of transferring forces' supplies, quality control and contract cleaning to private industry. They are in areas where industrial action was taken on pay earlier this year.

One is on certification and payment of bills to outside contractors. Action by the Civil and Public Services Association and the Society of Civil Servants at the Ministry's Liverpool computer billing centre caused the Ministry to pay some bills manually, and disrupted its cash flow.

A study of the Royal dockyards—where industrial civil servants are taking action, and which were hit earlier by action by members of the Institution of Professional Civil Servants—is on the yards' organisation, "taking account of recent manpower and productivity trends and those forecast for the future."

## APEX executive prepares for talks on merger

BY NICK GARNETT, LABOUR STAFF

EXECUTIVE MEMBERS of the Association of Professional, Executive, Clerical and Computer Staff begin discussions in earnest next month with some of the six unions which have tentatively offered proposals on a merger with the 150,000-strong white collar union.

One set of talks, in November, involves the General and Municipal Workers' Union, which is thought to have approached APEX about a possible merger in June.

Senior officials of APEX, including Mr. Roy Grantham, the general secretary, are thought to have decided that a merger with a larger union would be beneficial in the light of probable changes in white collar unionisation. Most, if not all, of the six unions, however, have taken the initiative in approaching APEX.

Its executive has already endorsed a report that the "special interests" of APEX must be protected in any merger formula.

Some APEX officials have concluded that merger negotiations with the Association of Scientific, Technical and Managerial Staffs, one of the six unions courting APEX, are likely to prove more successful than any other. ASTMS has so far been cautious about the possible outcome of those talks.

## ICI staff accepts 18%

MANAGERIAL and professional staff at Imperial Chemical Industries have agreed a pay settlement worth 18 per cent in a deal which completes the company's pay negotiations in the current round with all its groups of workers.

The 9,000 staff, about half of whom are members of the Association of Managerial and Professional Staff, had rejected

by ballot an 18 per cent offer plus an unspecified productivity bonus.

The union's ICI national standing committee agreed over the weekend to accept the deal after further negotiations with the company when it was agreed that the question of differentials should be referred through the group's agreed procedure to mediation.

## Big clashes on air licensing expected

BY MICHAEL DONNE, AEROSPACE CORRESPONDENT

ONE of the biggest airroute licensing battles yet seen in the UK starts on October 24, when the Civil Aviation Authority starts public hearings of claims by several independent airlines for new routes from Gatwick to the Continent.

The biggest claims for new routes from British Caledonian, which wants 20 cities added to its network, and from Laker Airways, which wants to run Skytrain-type flights to 35 European cities. Smaller applications for European routes from Dan-Air and British Island Airways will be made.

British Airways, the State-owned airline, already flies to many of the cities concerned from Heathrow. It has rights to many from Gatwick, but does not use those rights.

British Caledonian and Laker in particular will ask for British Airways Gatwick rights to be withdrawn and reallocated to themselves.

British Caledonian has asked for rights to Athens, Barcelona, Cologne-Bonn, Copenhagen, Dusseldorf, Frankfurt, Geneva, Hamburg, Hanover, Helsinki, Lisbon, Madrid, Marseilles, Milan, Oslo, Rome, Stuttgart, Turin, Zurich and Vienna.

It has said it will offer fares up to 40 per cent below existing rates.

Laker's list includes many of the above cities, and also such destinations as Malaga, Palma, Ibiza, Las Palmas, Tenerife,

Corfu, Rhodes, Heraklion, Dublin, Paris, Nice, Brussels, Amsterdam, Stockholm, Naples, Munich and Berlin.

Laker has also said it will offer cut-price fares, at about half present levels.

The Civil Aviation Authority has set aside 12 days for the hearings, which will be bitter, with each independent fighting the other as well as British Airways.

Decisions will probably not be announced until the New Year, but sufficiently early in 1980 to

enable flights to start in the spring.

This will also depend on foreign Governments' reactions to the independent's plans.

Under the bilateral air agreements between the UK and European countries in nearly every case only two airlines are allowed on the routes, British Airways and the appropriate foreign-flag airline.

In only a few cases are additional airlines permitted, such as British Caledonian between Gatwick and Paris. Foreign airlines and their Governments may object strongly to more UK airlines serving their cities, even if this is from Gatwick.

Thus, even when the Civil

Aviation Authority has made up its own mind what to do, there must be an extensive series of negotiations with the foreign countries in each case to get their permission for reallocation of routes.

This in turn could prove a long and difficult matter, and start of flights from Gatwick could be delayed.

The Civil Aviation Authority hearings will be on October 24-26 and 30-31, and November 1, 2, 6, 9 and 21-23.

A new airline, Air Kent, starts today between Manston, at the eastern tip of the county, and Brussels and Rotterdam.

Using twin-engined eight-passenger Piper Chieftains, the airline will make five flights daily to Brussels each weekday and two flights daily to Rotterdam. Flying time will be 50 minutes each way. Fares are £43 single, £86 return.

Founded by Mr. Robin Paine and other East Kent businessmen, the airline aims to make it more convenient for residents in the area to reach the Continent. Hitherto they have been obliged to make a 90-mile surface journey to reach Heathrow before flying to Brussels or Rotterdam.

By using Air Kent they can be in Brussels much more quickly. At Brussels passengers can connect with Sabena flights to many long-distance destinations.

Thus, even when the Civil

## Shopping coupon drive by Tesco

BY DAVID CHURCHILL, CONSUMER AFFAIRS CORRESPONDENT

TESCO is today launching the first shots of the autumn offensive in the grocery price war. It is reviving the use of special coupon schemes whereby shoppers can exchange a coupon allowing up to 10p off a specified product.

The two-week campaign, with the coupons distributed through a national newspaper, is the first time Tesco has used coupons since it sparked the price war two years ago by dropping trading stamps and concentrating on price cuts.

The move suggests that Tesco is attempting to vary its pricing tactics to maintain shoppers' awareness of its overall strategy of low prices and helping to generate a higher sales volume. Coupons have the advantage of publicising price cuts—even if the coupons are not used—as well as enabling the retailer to secure manufacturers' support to help finance special reduced prices.

Tesco's revival of coupons is

in line with the growth of their popularity in the retail trade. A recent survey carried out by the Nielsen market research company shows that three-quarters of consumers use coupons. In 1978, a record 27m coupons worth £16.7m were redeemed, compared with 192m coupons worth £11m in 1977.

More than half of the coupon users bought food with them according to the Nielsen survey, with household goods, toiletries, and cosmetics also popular.

For a product costing 20p, a coupon worth 5p was the value that most strongly influenced consumers to buy the product, according to Nielsen.

Although Tesco's use of the coupon scheme and increased advertising by other retailers suggest that the price war is beginning to hot up again, a major offensive has been delayed by the independent television strike with the consequent loss of advertising.

## Metrication rap for food industry

CRITICISMS of the food and drink industry for not making the switch to metrication more understandable for shoppers will be contained in a Price Commission report to be published tomorrow.

A commission survey conducted a year ago found

shoppers were confused by the ways in which food and drink were packaged and priced in shops following metrication, and that price rises were concealed during the switch to metrication because old prices were charged for new, smaller metric packs.

## Whitehall intervention in labour market criticised

GOVERNMENT intervention in the labour market promotes inefficiency, inflation and unemployment according to a new collection of essays published this morning by the Institute of Economic Affairs, an independent body which sponsors research into market solutions to economic problems.

The essays are based on a seminar at the end of last year attended by economists from throughout the world. They analyse the economic consequences of attempts to create jobs and discuss the broader workings of the labour market.

The authors agree about the adverse effects of Government attempts to create jobs. For instance, Professor Albert Rees

from Princeton University argues that "job preservation policies may preserve jobs for present incumbents, although even this effect is not inevitable."

"For workers they merely redistribute jobs in a way that reduces total output. Whatever their historical causes, the effect of restrictive work rules on the welfare of the whole society seems to be unambiguously detrimental."

The authors argue that for healthy employment prospects an efficient private sector is needed.

"Job Creation—or Destruction?" IEA Readings 20, £3.00 from Institute of Economic Affairs, 2 Lord North Street, London SW1P 3LE.

## SNP swing to hard lines

BY RICHARD EVANS, LOBBY EDITOR

THE SCOTTISH National Party, following its reversals in the general election and the devolution referendum, reached a watershed at the weekend with adoption of a clear change of strategy.

The results of elections to the party's main offices, announced at the annual conference in Dundee on Saturday, showed a marked desire to return to the party's fundamentalist roots of demanding full independence and nothing less.

Candidates who had urged development of a comprehensive Left-wing platform to make the

SNP the "natural" opponents of the Tories in Scotland and give it a wider ideological base were heavily defeated.

The most spectacular casualty was Mrs. Margo MacDonald, who was ousted from the influential post of senior vice-chairman by Mr. Douglas Henderson, former MP for East Aberdeen and a noted Right-winger.

The defeat was expected, but not its scale, 450 votes to 149. The new chairman is Mr. Gordon Wilson, MP for Dundee East, who defeated Mr. Stephen Maxwell, a leading member of the Left-wing Group 79.

## Registration of engineers backed by profession

BY HAZEL DUFFY, INDUSTRIAL CORRESPONDENT

A SIGNIFICANT proportion of people in engineering and scientific jobs favour the introduction of registration of engineers along the same lines as the medical profession so as to make engineering a more attractive occupation.

If such a course was adopted, it would mean that certain jobs could be performed only by registered engineers.

A survey carried out by the Policy Studies Institute recently for the Fininvest committee of inquiry into the engineering profession asked a sample of 5,200 engineers, scientists and technologists whether they thought certain suggestions would encourage people to remain in engineering. Predictably, the majority believed higher salaries would be the best way of raising the profession's status.

The next most popular suggestions were: raising the status and respect given to practising engineers (51 per cent); improving the career structure for practising engineers (78 per cent). Sixty-three per cent went on to favour a clearer distinction

between specialist professional engineering and technical work, and 61 per cent were in favour of registration.

Questioned more closely as to whether registration would be a good thing for the respondent's own post, 68 per cent said it would from their own point of view, 56 per cent thought it would be a good thing for their employer and 64 per cent voted it as a good thing in the national interest.

Registration is now on a voluntary basis, and is confined to those members of institutions which are affiliated to the Council of Engineering Institutions. But the issues of whether registration ought to be widened to encompass engineers outside the CEEI and whether registration should be in the hands of a statutorily-backed independent body have proved to be among the most controversial issues investigated.

The committee, which hopes to have its report ready before Christmas, is expected to make recommendations which go some of the way towards solving the registration argument.

## Opposition to proposed docklands authority

BY JOHN LLOYD

LABOUR politicians in London's Docklands yesterday said establishment of an urban development organisation for the area would lead to delay, and discourage investment.

Last week, Mr. Michael Heseltine, the Environment Secretary, said that the corporations, which came to be established both for London's docklands and for Merseyside would be run on the lines of a new town corporation.

The proposal was immediately criticised by, among others, Sir Kenneth Thomson, chairman of the Conservative-controlled Merseyside County Council, as being "without a vestige of public accountability."

The latest criticism supports this view. Councillor John

O'Grady, leader of Southwark Council and vice-chairman of the Docklands Joint Committee, said: "The proposed UDC would sacrifice the partnership between the six local authorities which is now showing results on the ground."

Mr. O'Grady said his council had already invested £20m in Surrey Docks and was looking to the docks to add at least £10m to the borough's rate base.

Mr. Nigel Spearing, MP for Newham South, agreed that the existing committee should receive more powers and funds, and said that the corporation was "a new Quango to transfer public property to speculators and developers." It was "nonsense" to use a new town corporation as a model.

## Better maths 'would cut unemployment'

IMPROVEMENTS in the way mathematics is taught in British schools would lead to a drop in the numbers of school leavers who fail to find jobs and help to ease the shortage of skilled labour, says a paper.

The paper Education and Employment—published today by the Association of British Chambers of Commerce. It says the Government should take urgent steps to improve standards of numeracy and literacy.

## New Town talks

LORD HOME, the former Prime Minister, this morning opens the first Commonwealth New Towns Conference in East Kilbride, for which at various times between 1931 and 1951 he was MP. About 170 delegates from 27 countries are attending.

## ITV card fans

DURING the dispute most regular ITV viewers have switched to BBC. Only 5 per cent have switched off or stayed tuned to the apology card, say BBC researchers. BBC 2 had its biggest audience ever last month—18.5m for a rerun of the film, The Good, The Bad and The Ugly.

## Lambeth revolt

LAMBETH, south London council, will today tell the Government it will not cut services in line with Department of the Environment guidelines. A protest march to Westminster is planned for November 7.

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# Building and Civil Engineering

## £13m Portuguese motorway

TRANSPORT system work by the Sir Alfred McAlpine group through its associated Portuguese company will bring in over £13.5m under contracts recently won.

Construções A. Supico SARL, in a joint venture with Tecnopol LDA, has won a contract from Brisa-Auto Estradas do Portugal worth around £13m. The first company is the McAlpine associate.

With McAlpine operating as the nominated supervisory contractor this large contract calls for the construction of a section of the Auto Estrada do Norte, between Condeixa and Coimbra in Portugal. This will be 15 kilometres of dual two-lane motorway together with 15 bridges and two interchanges.

Agent for the contract is Eng F. Neves and the work is scheduled for completion in three years.

Supico has also won a contract from Brisa for the construction of an interchange and two bridges at Avieiras de Cima in Portugal.

At home, in the Midlands, the northern wing of the company is to build a workshop and laboratory for Freeman Chemicals at a site on Deeside.

This £2m task is due for completion in 17 months. Architect is Ormrod and Partners.

## Cairo bank project

SEIFERT INTERNATIONAL has won a limited architectural competition for the new 36,135 square metres headquarters of the Bank MISR in Cairo.

The £20m project is to have a street-level banking hall set before its imposing 30-storey tower. Monolithic marble planes (said to have been inspired by classical Egyptian architecture) flank the buildings.

Tenders are to go out shortly and work is scheduled to begin on site early next year.

Wildnell and Trollope (Middle East) are quantity surveyors and Ove Arup International the structural engineers.

## Lovell gets work in London

WORTH £5.5m, a contract to Y. J. Lovell is for 274 dwellings at Margrave Park, Islington, for the London Borough of Islington.

The accommodation will consist of a mixed development for two and four people comprising well built houses and will include special housing for the disabled, particularly those dependent upon the use of wheelchairs.

There will also be accommodation provided in a sheltered housing block for old people, with warden accommodation included. Work on the site, which has already been cleared of buildings under a separate contract, will start on October 16 and is to take three years to completion.

Quantity surveyor for the contract is Oswald E. Parratt and Partners.

Millard Group has commenced work on the erection of 261 dwellings for Wolverhampton Corporation at its Pendeford site under a contract awarded earlier this year at a value of £3m.

Avonmouth Construction (part of APC Group) has been awarded a £200,000 contract to build industrial units with auxiliary services and parking areas for British Rail Property Services division at Chapel Street, Bristol.

## £11m Norwest Holst contracts

CONTRACTS totalling over £11m have been won by three divisions of Norwest Holst.

Refurbishment of Lily Mill, Shaw, Oldham, Greater Manchester, for the Littlewoods Organisation is the largest of several awards to Norwest Holst Northern. The £1.6m contract includes provision of modern mail order receiving, storage and despatch facilities, new catering facilities, lifts and electrical and heating installations. External works include a 2,000 square metre ramped paved area and reinforced concrete retaining walls.

English Industrial Estates Corporation has awarded this division two contracts one for the construction of 15 advance factory units and associated works on a reclaimed inner city

site at Sandon Way Industrial Estate, Bootle, and another worth about £800,000 for ten advance factory units in three blocks.

Other work for this division includes a £300,000 contract from the City of Liverpool for five terraced factory units at Taylor Street, Liverpool, and a £950,000 award for the construction of a 52 bedroom extension and associated external works and associated external works and associated external works.

Norwest Holst Southern has won two contracts. One worth £1.5m is from European Ferries for the construction of a seven-storey office block at 4-10 Henegave Lane, London, EC3, and the other, worth £1m, is from the City of Birmingham for construction of an engineer-

ing block at Handsworth Technical College, Birmingham. The Civil Engineering division of the company has been awarded two contracts. Largest of these is worth £1.5m and is for the construction of berthing, at H.M. Naval Base, Portland, Dorset. The contract with associated services, includes steel piling, reinforced concrete work, small buildings, service tunnel, earthworks and roadworks. The other award is worth £722,000 and is for the construction of plant, on the Stanlow North site, Ellesmere Port for Shell Chemicals UK.

Finally, Norwest Construction, has been awarded a £225,000 contract by the South Eastern Region of the British Gas Corporation for mains and service laying in the Guildford, Surrey, area.

## £5½m contracts for Wimpey

OVER £5½m worth of contracts have been announced by the Wimpey Group and one for £2m will, it is claimed, create 300 jobs in a central Scotland clothing factory.

The company has started work within the last few days on an extension of a 3.4 acre site at the Camelon, Falkirk factory of Bluebell Apparel (which makes denim leisure clothing under the "Wrangler" trade name) which includes production areas, plant room, offices, service road and car park. Project will add almost 105,000 square feet of floor space to the present factory and will take 15 months to complete.

Peterlee Development Corporation, Co. Durham, has placed a £1.8m contract for the erection of six factories in five separate blocks, together with access roads, car parks, footpaths, drainage and other services. The factories are in steel frame construction with external walls of brick and metal cladding at upper level. Roof structure is flat with metal decking and built-up felt covering and rooflights.

In Couva, Trinidad, George Wimpey (Caribbean) has won a contract worth over £1.4m for the construction of a shopping development. Awarded by the Anglican Church of Trinidad and Tobago, this contract com-

prises a complex with a total floor area of 75,200 square feet contained in one and two storey buildings which will consist of a department store, supermarket, shops, bank, snack bar and other amenities.

Grampian Regional Council in Scotland has placed a £460,000 order for the design, procurement, supply and installation of a Urox system at the Persley sewage treatment works near Aberdeen. Conversion will be achieved by covering the aeration tanks, replacing the surface aeration equipment and supplying oxygen from a 3.3 tonne a day oxygen generation plant also to be supplied and installed by the company.

## Testing the integrity of pipes

LEAKS in oilfield tubing string joints as small as one cubic foot per century can be quickly and easily detected by the Drexel SLE system, jointly developed by Drexel, the British-based international oilfield equipment group, and its associated company BOC-NOWSCO.

The system breaks new ground in that it simulates normal operating conditions by allowing a joint to be tested under internal pressure. It also relies on identification of traces of helium outside the joint and not upon measurement of a pressure drop. This technique is more reliable, more sensitive and quicker to use.

Prime component of the system is the Drexel SLE tool which is lowered inside the tubing. The joint to be tested is isolated by two packers at either end of the tool which are expanded by air pressure to form a seal.

Air dosed with helium is introduced from a small skid mounted compressor and the internal

pressure raised to any required level up to 5000 psi.

Leaks are measured by applying a probe from a highly-sensitive BOC-NOWSCO portable mass spectrometer to the external faces of the joint. Minute leakages of helium—as small as 1 cu ft/100 years—are immediately detected.

The SLE system has been designed to API standards and is suitable for use in pipe diameters up to 8½ in. Drexel DPD, Waldron Road, Monrovia, Anguilla DD10 8SW. 0674 4158.

## Offices in Swindon

COMMERCIAL UNION Properties (Developments) has contracted Sir Robert McAlpine and Sons to construct a five-storey office block at the junction of Gloucester Street and Station Road, Swindon, under a contract worth £2.4m.

The structure will be L-shaped and 22 metres high. It will be air conditioned and provide 5,300 square metres of floor space.

Work starts immediately with completion programmed for late next year.

## Shifting the earth

PROMISING to save money in both the public and private sectors is the Cannon range of earth moving equipment which can enable a single operator to accomplish four separate earth moving jobs without changing attachment, or leaving the tractor seat, announces Welbourn Sportsgrounds, Welbourn, Lincoln (0400 73475).

The range has been developed in the U.S. where it has been in use for the past 25 years and, initially in the UK, three tools will be available in 29 models, covering a wide range of load capacities and cut widths with either part hydraulic operation or fully hydraulic.

The Earthmover has a rotating bucket which, at the pull of a lever will provide four earth-moving operations.

The unit's box type scraper is controlled from the seat through a conventional hydraulic link and is a basic three operation tool for scarifying, filling and levelling. Scarifiers are adjusted manually to give low or high cut or they can be removed altogether for fast backfilling and levelling.

## Six authoritative information packages from the Building Research Establishment

The Building Research Establishment is the chief government agency with responsibility for research into construction and the speedy dissemination of its findings. Specialist units of the Establishment study and provide answers to practical problems faced by the industry as a result of changes and innovations in the field of

building and construction. Six important information packages have been produced by BRE. All are authoritative, up to date, well presented, and outstanding value for money. Some of these packages may be of great interest and service to you. Please use the form below to order the items of your choice.

### 1. The BRE building game

Primarily for students of building or architecture; to be played by the individual or by small syndicates. There is no obvious or 'book' solution to organising the work—a wide variety of strategies can be adopted and comparisons made to see which of two designs for a two-storey building proves to be the quicker and cheaper to construct. One set is sufficient for a syndicate to 'build' each of the alternative designs. Price, £1.00.

### 2. A critical look at working drawings

A study, based on BRE research of 2000 drawings by architects of many features—helpful and otherwise—of current drawing practice. 40 slides, with presentation notes, are backed up with BRE reports on the coordination and use of working drawings. Price, £3.90.

### 3. The effect of windloading on typical buildings

Forty slides, with presentation notes, which illustrate how wind damage occurs and introduce methods now used for calculating wind loads. The package also contains eight reports on wind pressure measurements of the Post Office Tower and low-rise buildings; a boundary layer wind tunnel; and wind damage in the UK. Price, £3.90.

### 4. Keeping out the rain

Forty slides, with presentation notes, which show many of the common causes of rain penetration into buildings, and give details of effective means of protection. Also included are four reports on open-jointed rain screen claddings; window-to-wall joints; weather-protected features on external walls; and tolerances and fits for standard building components. Price, £3.90.

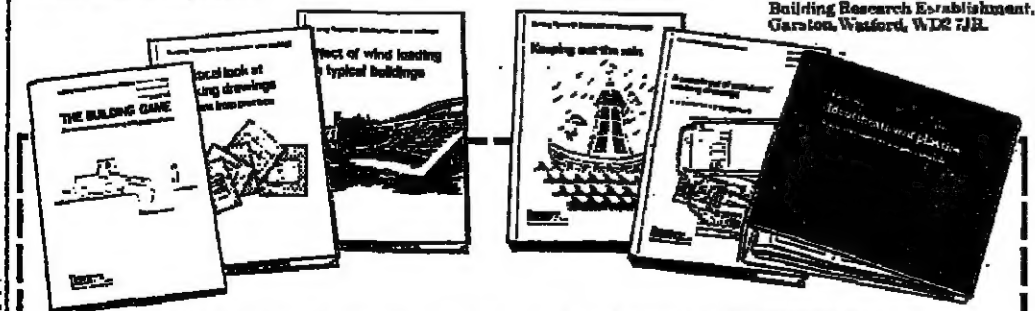
### 5. A sample set of architects' working drawings

This package, the result of BRE research into the effectiveness of working drawings, illustrates shortcomings of the 'traditional' approach to producing them. A sample set of 27 full-size architects' drawings, with additional notes for arranging and using them, gives direct guidance to designers, technicians, and all concerned with the production of such drawings. Price, £6.70.

### 6. Aids to the identification of plastics

This kit of 36 samples of plastics, with explanatory notes and charts, makes it possible to compare unknown plastics material with the samples and thus identify them, together with their particular properties and applications. Price, £12.50.

The Distribution Unit, Building Research Establishment, Garston, Warrick, W12 7JL.



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## Office work by Bovis

TWO JOBS just won by Bovis Construction amount to over £1.1m and the larger contract, for £720,000, has been awarded by Estates Improvement for two three-storey office blocks at High Road, Whetstone, North London.

Other work, £420,000 worth, for the Automobile Association, is the refurbishment of Queen's House, Queen's Street, Cardiff. This will become the AA's third insurance processing office and will also incorporate a members service centre.

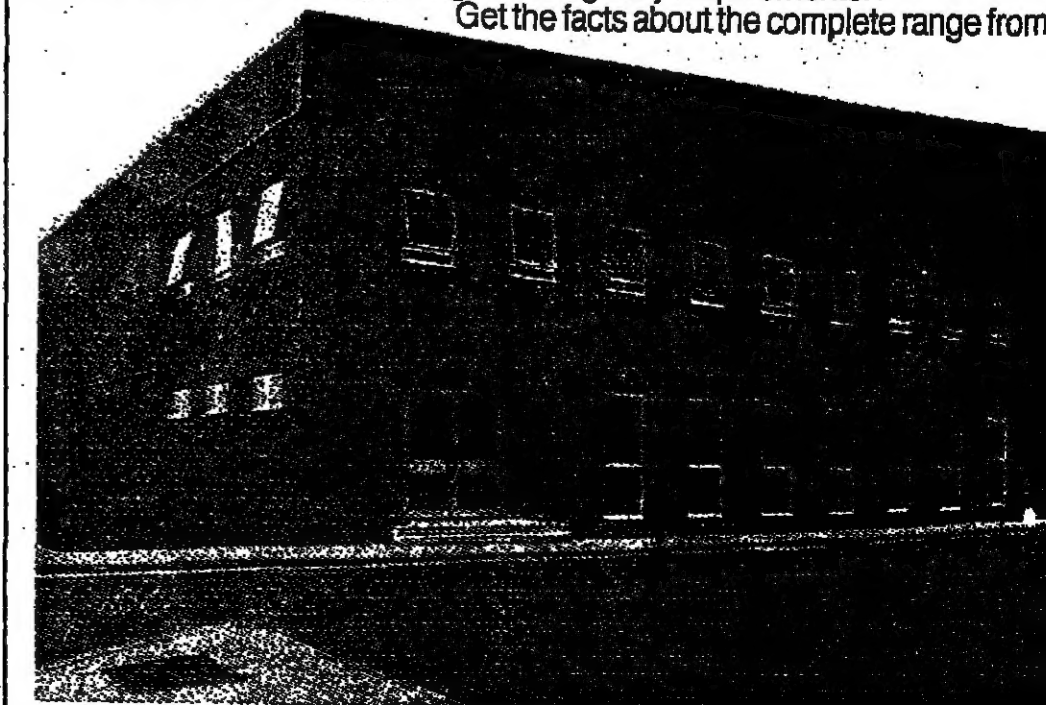
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## A roofed reservoir

JOHN TAYLOR AND SONS (Middle East), a member of the Association of Consulting Engineers, is to design and supervise construction of the Shuwaikh water distribution complex for the Kuwait Ministry of Electricity and Water.

Included will be a 260m gallon reservoir, a 50m gallons/day blending and chemical dosing facility and a pumping station. The reservoir will have a roof of about 45 acres and consideration will be given to what recreational or other use the roof area could be used.

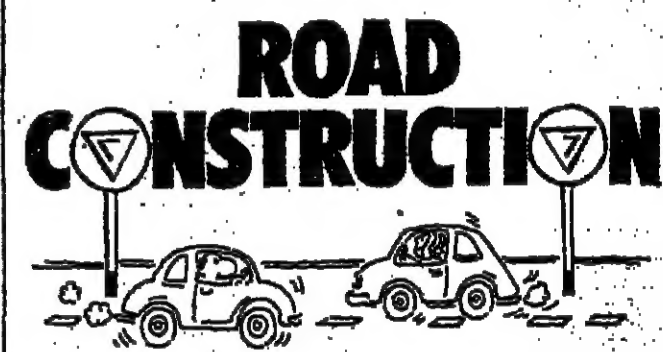
In addition, offices for some 150 water department staff are to be designed. The studies for the project are to start immediately. Design work should begin early in 1980, with construction scheduled to begin in 1981.

John Taylor and Sons is also currently engaged on the detailed design of the Kuwait effluent utilisation project which, when operational, will permit up to 50m gallons per day of purified sewage effluent to be utilised for irrigation.

## IN BRIEF

● Prime site at Water Lane, Wilmshurst, Cheshire, is to be developed by Whitcroft as a new group headquarters providing 12,000 square ft of gross internal area and 15,000 square ft of net office space. Planning application has been approved and construction will start early next year.

● Supply of steel girders for traffic signs on the Strilingshire link motorway due to open in November, is worth £185,000 to Robert Watson and Company (Constructional Engineers). Main contractor is Tarmac National Construction.



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# FINANCIAL TIMES SURVEY

Monday September 17 1979

## Murchison Field Platform

### Oil may flow next summer

By Kevin Done  
Energy Correspondent

WHEN THE first oil begins to flow from the Murchison Field in the North Sea next year—production is expected to start during the summer of 1980—it could well mark the historic moment that the UK for the first time is able to produce as much crude oil as it consumes.

The development of North Sea oil has been a long and costly business since the first commercial field in the British sector, Montrose, was discovered in September, 1960. But in June this year North Sea oil output exceeded 1.7m barrels a day for the first time, equal to more than three-quarters of UK needs, and, according to the latest Government forecasts, self-sufficiency should be reached in the second half of next year. The Department of Energy said recently that UK crude oil production is expected to total 85m-105m tonnes next year, compared with consumption this year of 96m tonnes.

The Murchison Field, which is being developed by an Anglo-Norwegian group of 12 oil companies, is likely to be the sixteenth oil field to come on stream in the British sector of the North Sea. It is located to the east of the Shetland Islands among the Dutch of "proliferous" fields that includes the two largest North Sea fields, the Statfjord and Brent Fields.

However, Murchison was discovered rather later than most of the neighbouring fields—in September, 1975—and its significance lies not so much in its size, but in the way its developers have applied in practice the lessons learned from the hard experience of developing some of the earlier UK finds.

By the time Conoco, the U.S. oil company and operator of the Murchison Field, began detailed planning for the project in 1976, it had already become obvious that the first generation of North Sea oil fields had run into serious problems as costs increased wildly beyond the original budgets and construction timetables began to run many months behind schedule.

One of the first decisions taken by Conoco management, therefore, was to compile a study of earlier North Sea projects to try to learn what had gone wrong. The result was a report that quickly became known within the company as "The Book of Errors," although it went by the rather more formal title "Application of prior North Sea experience to Murchison project planning."

The study showed that many of the early projects had been set in motion before detailed design work had been completed. The result was that major pieces of equipment were being constructed and designed at the same time.

As the designs were modified, so the costs increased in a way that was almost impossible to control. The Murchison group took this point very much to heart and tried to have all designs completed before going out to contract.

### Changes

It set up a design review board which investigated any proposed major design change both in terms of the extra costs and the delays to the construction schedule. According to Mr. Dennis Gregg, Conoco's general manager of the Murchison project, if contracts are let

When a 25,000 tonne steel platform jacket was floated out to the Murchison Field in the North Sea recently, it marked the most important stage so far in the Anglo-Norwegian development of the medium-sized field. Crude oil production could begin there by next summer, making Murchison the sixteenth oil field to come on stream in the UK sector of the North Sea.

UK AND NORWEGIAN OIL FIELDS IN THE E. SHETLAND BASIN OF THE NORTH SEA

Field	Operator	Block	Total recoverable reserves (m bbls)	Production to end 1978 (m bbls)	Estimated remaining recoverable reserves (m bbls)	Quality deg. API	Sulphur content percentage	Percentage recovery factor
BRENT	Shell	211/23, 3/4	2,215*	39	2,176	35	0.2	45-50
CORMORANT (SOUTH)	Shell	211/26	110	—	110	35-36	0.55	45
CORMORANT (NORTH)	Shell	211/26	400	—	400	35	0.3	40
DUNLIN	Shell	211/23, 211/24	400	5	395	35	0.4	30-35
HEATHER	Unocal	2/5	150	1	149	35	0.57	40
MAGNUS	BP	211/12, 211/7	450	—	450	39	0.28	45-50
MURCHISON	Conoco	211/19	318	—	318	38	0.26	40
NINIAN	Chevron	3/3, 3/8	1,200	Neg.	1,200	35.1	0.41	37
STATFJORD	Conoco	211/24	233	—	233	38	0.2	50
THISTLE	ENOC	211/18, 211/19	500†	20	480	37.4	0.31	50

\* Includes 530m barrels of NGLs and condensate. † Includes 50m barrels of NGLs and condensate.  
Source: Wood, Mackenzie.

on the basis of conceptual drawings alone "you can only pay as you go along. It is difficult to work on fixed sum contracts and you can have no idea of the final costs before you start."

Earlier field developments also showed that serious errors were made in underestimating the weight of individual pieces of equipment to be installed on the offshore platform. So Conoco instituted a system of careful weight control. It also chose a radically new overall management approach. A large team of more than 80 Conoco staff was set up to be the core of the project management, instead of the normal practice of contracting this job outside to engineering consultants. This team then worked in parallel with the consulting engineers who were hired on the basis of offering "project services."

Control of the work could then remain firmly in the client's hands.

The result has not been perfect. Inevitably there have been some delays and the 25,000 tonnes steel platform jacket was floated out to the North Sea only three weeks ago, about 3½ months behind schedule. Most of the equipment to be installed on the platform is completed, but two of the individual equipment modules that are being constructed at one of the UK fabrication yards are still to be finished.

The original budget costed the whole Murchison project at \$750m. Mr. Gregg claims that development is still within this budget, although the final cost is more likely to be in the region of \$950m because of sharp changes in the dollar/sterling exchange rate. (The project was first costed when the pound was worth only \$1.60.)

The main delay in the construction of the steel jacket was

caused by an eight-week strike last year at J. Ray McDermott's fabrication yard at Ardersier on the east coast of Scotland about 10 miles to the east of Inverness. Work was also hampered when a tall crane, specially constructed to lift the steel frames into position, collapsed at the site in September.

Murchison is a medium-sized field by North Sea standards with recoverable reserves estimated at about 380m barrels of crude oil. In addition, associated natural gas reserves in the field could total 152bn cubic feet and Conoco hopes to recover about 20m barrels of the heavier gases propane and butane.

The field's design capacity could allow production of up to 150,000 barrels a day of crude oil—similar to the nearby Dunlin Field and slightly less than the neighbouring Thistle Field—but peak annual output is likely to average about 130,000 barrels a day. This level of pro-

duction could be held for about four years, starting in 1981, before the field begins to decline.

In order to achieve a high initial level of production Conoco has installed three wellheads on the sea bottom—two for oil production and one for water injection—which will be brought on stream at the same time as the first two or three wells to be drilled directly from the platform.

These sub-sea wellheads were installed last year on the original, exploration wells drilled nearly three years earlier to discover the field. Murchison has a relatively simple and compact geological structure and the decision to go ahead and develop the field was made after only three wells had been drilled on the field.

The sub-sea wells should considerably enhance the early cash-flow from the field and they have also provided the

opportunity for testing new methods of sub-sea installation. These three satellite wells will be linked up to the main platform during the spring next year. The connecting pipelines could have been laid earlier, but they might easily have been damaged during the installation of the steel jacket or during the early months of offshore construction.

Crude oil production from Murchison will flow by pipeline to the 15in oil terminal that is now under construction at Sullom Voe in the Shetland Islands. The terminal will not be completed until the early 1980s, when all the gas processing facilities are brought on stream. But Sullom Voe has been accepting crude oil, which has been stabilised offshore instead of at the terminal, since autumn last year. Oil is flowing ashore through two major trunklines, the Brent System pipeline and the Ninian pipeline.

The Murchison Field will be linked to the seabed pipeline network by a 10-mile line running to the Dunlin Field, which will be laid early next year. Here the crude will be mixed with oil produced from both the Dunlin and Thistle Fields as it flows into the 20-mile shared pipeline, in which the Murchison group has a 27.3 per cent interest, leading to the Cormorant Field.

The Cormorant platform acts as the main pump station for the Brent System pipeline and will be the vital junction controlling a major part of the UK's crude oil production. It will also take oil from fields such as Brent, Hutton and North-west Hutton, transporting it along the 95-mile trunkline to Sullom Voe. The Murchison group has a 12.28 per cent interest in the main pipeline.

The problem of disposing of the associated natural gas production from Murchison has not been solved quite so easily. The Government is anxious to ensure that only the minimum gas

necessary is flared into the atmosphere and wasted at the offshore oil fields. The gas represents a valuable energy asset in its own right, but most of the North Sea oil fields do not produce sufficient gas individually to justify the building of an independent gas pipeline ashore.

Tentative discussions were started among the operators of the four most northerly North Sea fields, Murchison, Thistle, Dunlin and Magnus, about the construction of the so-called "northern leg" gas pipeline which would have collected gas from the four fields and linked them into the main Brent gas trunkline running to St. Fergus in Aberdeenshire. This mini gas-gathering system probably would have been built by the British Gas Corporation and the British National Oil Corporation and initial negotiations were started last year.

The whole scheme has been put back into the melting pot, however, by the Government's decision to revive plans for a much more comprehensive gas-gathering pipeline. This line might run from the northerly fields such as Magnus and Murchison all the way to the central North Sea to pick up gas from several other fields such as Brae and Beryl, before coming ashore at St. Fergus.

The economics of this scheme would be greatly enhanced if it could also pick up gas from the Anglo-Norwegian Statfjord Field, but the Government appears to believe that enough gas could exist already in the UK sector of the North Sea to justify a new pipeline with or without the Statfjord gas.

Mobil, operator of the Beryl Field, and the British Gas Corporation have launched a detailed feasibility study into the project, but if the line is built it is unlikely to be ready to carry gas before 1985-86. The Murchison group intend to reinject the associated gas into the reservoir for the first two to three years to help maintain production pressures, but by

CONTINUED ON PAGE 11

# HOW CONOCO FITS INTO THE ENERGY PICTURE.

Conoco? Oil company names can be confusing. So perhaps you can't place us right away.

For a start, Conoco is involved in five North Sea oil fields. And produces enough natural gas to meet approximately one eighth of Britain's requirements.

Then there's refining. Our Humber plant is probably the most sophisticated in Britain. It produces petrol for 800 Jet service stations, and is a world leader in the production of highly-specialised petroleum coke.

Internationally, Conoco is a fully-integrated energy company involved in chemicals, coal, uranium and research—as well as holding an interest in over 200 million acres of oil and gas exploration territory on five continents.

With 44,000 employees in 25 countries, it all adds up to Conoco being among the world's 50 largest corporations.

This wide sweep of interests is one of Conoco's greatest strengths.

It results in synergy—the bringing together of different ideas in such a way that the total effect is greater than the sum of the effects taken independently.

Sometimes synergy is defined simply as 2+2=5.

In Conoco synergy occurs when oil exploration skills are used to chart underground coal formations with the aim of, designing safer mines; and when oil and coal engineers collaborate to design a system in which coal is mixed with water and pumped to the surface by pipeline.

Synergy also occurs when our chemicals people devise a fluid that could increase dramatically the flow of oil through the Alaska pipeline; and when, in anticipation of increased demand for nuclear fuel, mining expertise is employed to intensify the search for uranium.

And of course our researchers are constantly employing techniques gleaned from all our areas of activity in a range of important projects.

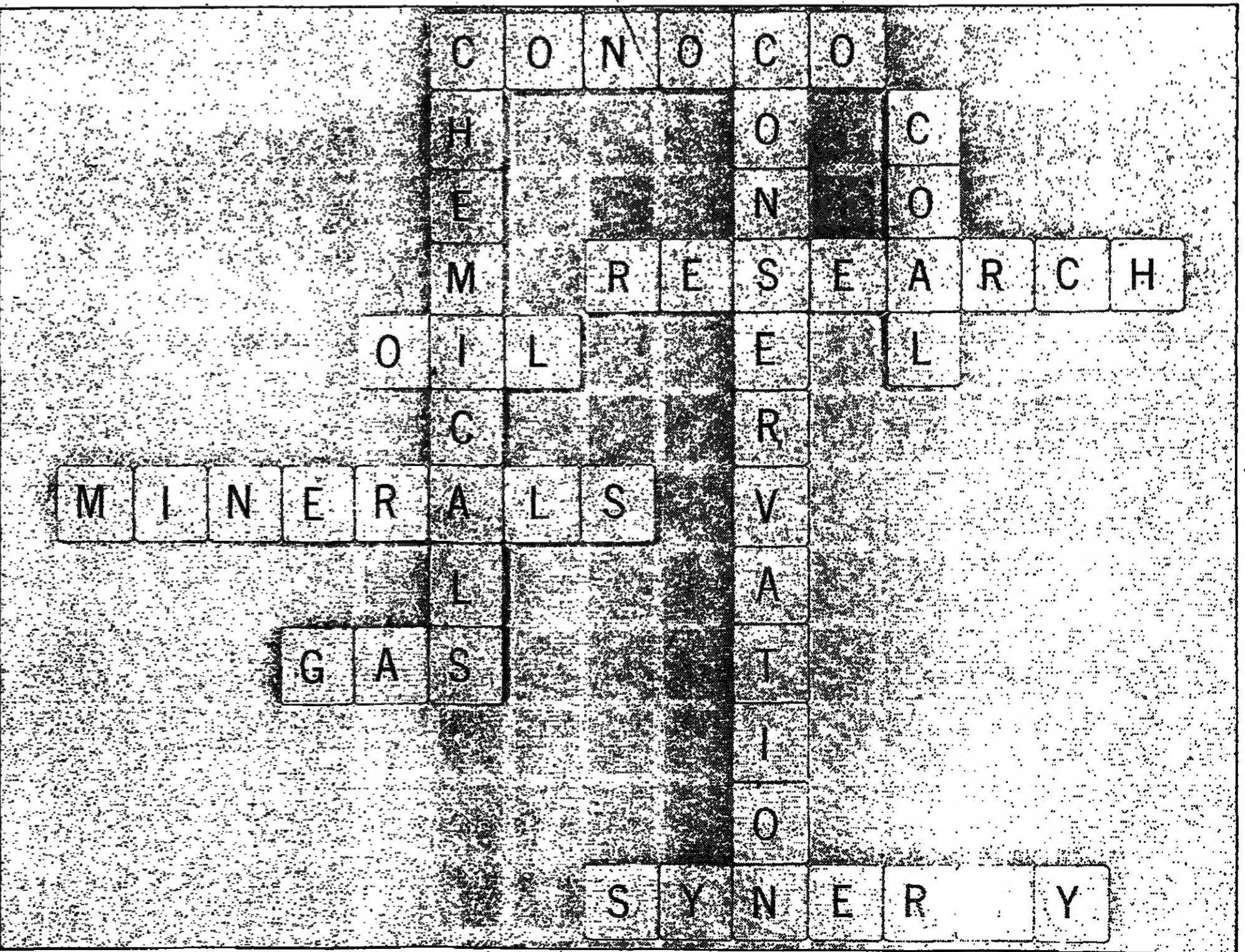
Right now, for example, they are working on the production of gas and oil from coal, and oil from tar sands. And at ways of enhancing the recovery factor of energy from existing sources.

Even our conservation techniques are being pooled in the constant search for ways of using less energy to produce more energy.

As our activities grow and cross and intertwine, so do our strengths.

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DOING MORE WITH ENERGY



If you would like to know more, write to our Information Division at Park House, 116 Park Street, London W1Y 4NN, or Imperial House, Exchange Street, Aberdeen AB1 2NH.



## MURCHISON FIELD PLATFORM II

## Project reaches key stage

THE INSTALLATION in recent days of the 25,000 tonnes steel platform jacket for the Murchison Field has marked the most important stage so far in the development of one of the North Sea's most northerly fields. The jacket is the largest structure yet to have been launched from the back of a barge into the North Sea. When the deck and all the processing units have been installed it will stand 866 feet above the seabed, rather taller than the Post Office tower in London which measures only 620 feet.

Much of the technology used for the construction of the Murchison jacket has been well tried and tested in many earlier platforms built for North Sea oil and gas fields. Indeed, the techniques used for building such steel jackets are a direct development of methods first used in the rather quieter waters of the Gulf of Mexico.

However, the Murchison platform is of necessity a much larger structure than many of its predecessors. It has been built to stand in 515 feet of water in the middle of the North Sea and has been designed to withstand the 150-knot winds and 100-foot waves that can occur in these stormy waters. The field is located 120 miles to the north-east of the Shetland Islands and straddles the median line which divides the British and Norwegian sectors of the North Sea.

The jacket was towed out to the field about 31 months behind schedule, but this delay could be made up before next summer—when the field is due to start production—if the offshore work of installing and hooking together the various equipment modules proceeds smoothly. Once the jacket has been anchored firmly in place in the next few weeks by steel piles driven into the seabed, the next

task will be to lift into place the 3,000 tonnes steel deck, which has been constructed in Holland.

This frame will support the 14 other equipment modules, such as processing units, accommodation quarters, drilling rig, power stations and helicopter pad, which should be installed by the late autumn. Conoco estimates that it will need at least 50 clear days to instal all the different items of equipment that are necessary to complete the platform. The hooking up and commissioning of the various units will last throughout the coming winter and next spring.

The steel jacket was designed by CJB-Earl and Wright, the Anglo-American partnership, which was established especially to tender for offshore work in the North Sea. It has done similar work on steel platforms for fields such as Thistle, Ninian and Montrose and is seeking further work from the Conoco group for the development of the Hutton Field.

## Delay

Construction of the Murchison jacket at J. Ray McDermott's yard at Ardesier, about 10 miles to the east of Inverness, fell behind schedule last year when work was halted by an eight-week strike.

Progress was further hampered when a massive crane, specially built for lifting the frames of the Murchison jacket into place, collapsed at the site. The accident seriously threatened the construction timetable, but in the event McDermott was able to build alternative cranes, which were installed in time to handle the major lifts.

Altogether 35,000 tonnes of steel for the platform were made and rolled by the British

Steel Corporation at two of its Scottish plants, but a further 8,000 tonnes of steel was shipped in from Japan. More than 70 per cent of the contracts for construction and services on the Murchison Field have been awarded to British companies, but as the orders for Conoco are completed several of the companies, in particular some of the fabrication yards, are facing an uncertain future.

The workforce at McDermott's own yard at Ardesier was cut by 300 in May because of uncertainty over future orders and the other major platform yards are also facing the threat of large-scale redundancies. This year McDermott has floated out two large steel jackets. The first structure was built for Petrobras, the Brazilian state oil company, for installation on the Namorado field.

The 52m jacket was towed out in the middle of the winter but was moved only as far as the southern North Sea off the English coast near Hartlepool, where it sank in a storm.

At the nearby platform yard of Highland Fabricators at Nigg Bay on the Cromarty Firth nearly three-quarters of the 1,600 workers face redundancy by early September. Both Highland Fabricators and McDermott have been hit hard by their failure to win the last two North Sea platform orders to be placed for the North Cormorant and Maureen fields.

In recent weeks, the Nigg Bay yard has been completing work on small orders for equipment for Amoco, Chevron and Texaco and is facing the winter with only the contract for the main steel jacket for Shell/Essco's Fulmar Field remaining. This should guarantee some work until next spring, but both the yards near Inverness, McDermott and Eliab are bid-

ding hard for new work. McDermott will continue working through to next summer completing a cellar deck for the Beatrice Field and piles for the Fulmar Field.

Both yards are setting great hopes on securing the next important order to be placed for the UK sector of the North Sea, the steel jacket for British Petroleum's northerly Magnus Field. That contract should be awarded in the late autumn and it could be followed next year by orders for several other fields, which are now coming near to development decisions.

## Plans

The group of companies led by Marathon, which is intending to develop the Brae Field in the central North Sea, is seeking permission this summer from the Department of Energy to go ahead with the project, and the Mobil group is planning a second platform for the Beryl Field. Both these structures are expected to be conventional steel jackets. The Amoco group will be going out to tender in a few months' time for a steel structure for the North West Hutton Field.

The recent order for the North Cormorant platform was awarded to a partnership of the Scottish yard at Methil, Fife, run by Redpath and Groot Caledonian, and the French company Union Industrielle d'Entreprise, based at Cherbourg. Even this order was not sufficient to stave off redundancies at Methil, however, and RGC announced in July that about 300 of its 800-strong workforce would be losing their jobs by the autumn.

According to Dr. J. Dickson Mabon, the former Energy Minister who is now chairman of RGC, even if new work is won

before the redundancy notices expire, it will make no difference. "Our objectives are to break even by next March and to get down to a workforce by early in October which we can keep stable and in full employment."

These three established steel fabrication yards were not helped earlier this year when Phillips Petroleum decided to award the contract for the jacket for its Maureen Field to an entirely new partnership consisting of Chicago Bridge and Iron and the Glasgow-based Weir Group.

The main jacket will be built at a yard at Hunterston on the Lower Clyde, which was built with £7m of Government money and which has lain empty and unused for five years. But the contract will create about 450 jobs for two years in an area of high unemployment. At the same time more jobs will be created at Loch Kishorn, where the Anglo-French-Dutch partnership of Howarth-Doris-NAPI is to build the Maureen deck.

In the longer-term, many North Sea oil companies will be looking increasingly to sub-sea production systems to replace costly fixed platforms. At the Murchison Field Conoco has taken the opportunity to experiment with some new sub-sea technology using the three existing satellite wells that were originally drilled to discover and appraise the field.

The system of three sub-sea wellheads will allow production to begin at a higher rate when the pipeline and production facilities on the platform are complete. Two of the satellite wells will produce oil and the third will be used for water injection to maintain pressure from the beginning of production.

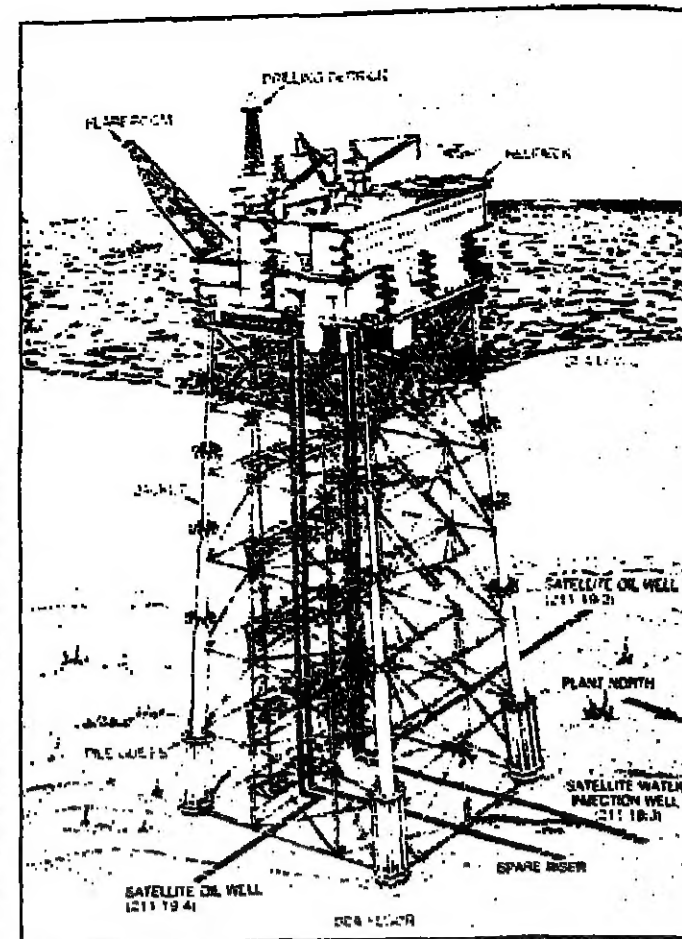
Water injection will be used

from the very beginning and should help to ensure recovery of at least 45 per cent of the oil in place. When the field is in full production about 150,000 barrels of water a day will be injected into the Murchison reservoir to assist recovery, rather more than the average of 150,000 barrels a day of crude oil that will be produced.

The small diameter pipelines, which will link the sub-sea wells to the platform, will be installed next spring. An original approach has been devised for transporting them to the field. The lines are being constructed on land and will be towed out in complete sections, the longest measuring nearly 14 miles.

The pipelines will be towed on the 300-mile journey six to 10 feet off the sea bottom, supported at either end by sleds, which themselves are attached to tug boats on the surface. When other pipelines or even old wrecks are encountered the trailing tug will hold back, increasing tension in the tow lines and causing the pipeline to "fly over" the obstacles with a clearance of about 90 feet.

Kevin Dowe



Murchison Field production platform showing risers for satellite sub-sea wellheads.

## Tests show area's high potential

ON JULY 11, 1975, a Conoco-led offshore exploration group began drilling a "wildcat" well on North Sea block 211/19, just over a mile from the UK-Norwegian median line. Seismic surveys had already indicated that the underlying rock structure was similar to formations which contained several oil fields already discovered in the area.

By the beginning of September the assessment of the seismic data had been proved correct. The well had discovered a light, high quality oil in about 385 ft of productive layer of sandstone. Two drill stem tests showed the low-sulphur crude oil at rates of 1,350 and 5,800 barrels a day. It was the encouragement that Conoco needed.

Almost immediately the group began drilling again. The second well was sunk to the north of discovery hole and encountered similar geological conditions. By January 17, 1976, yet another well had been drilled, this time somewhat closer to the median line. Again it was a success—indeed, the results from the logging and coring tests were so similar to those of the previous two wells that Conoco did not bother to run a flow test.

A further well was sunk in block 32/9 in the Norwegian sector of the North Sea to test the eastern extension of reservoir, but by then the exploration group had a very good idea of the field's layout. Murchison—named after Sir Roderick Murchison, the 19th century Scottish geologist—had emerged as one of the richest fields in the North Sea.

## Location

Almost square in shape, and some 3,300 acres in extent, Murchison is flanked by faults on three sides (south-east, south-west and north-east) and the oil-water contact to the north-west.

The oil is trapped some 9,900 feet below the seabed on a tilted fault block—a sloping layer of sandstone about 400 feet thick. The formation, known as the Brent Sands, dates back to the Middle Jurassic period around 150m years ago.

The Jurassic has been proved as the most oil prolific of all the reservoir rocks in the North Sea. It contains about 20 named UK oilfields, among them some of the biggest on the Continental Shelf—Brent, Statfjord, Thistle, Ninian, Piper, Claymore and Magnus.

These northerly fields are located mainly in the geological zone known as the Viking Graben—essentially a complex subsided rift running roughly along the line of the UK-Norwegian median line. This rift possesses a number of complicated fault-block features containing oil at depths of between 9,000 and 12,000 ft.

Most of the exploration activity in the Viking Graben took place between 1970 and 1977 when no less than 227 wildcat and appraisal wells were

sunk. Of these, 93 were unsuccessful and 43 discovered oil or condensate (very light oil). Mr. Dick Fowle, exploration director of British National Oil Corporation, told an offshore conference in London last year that the success ratio of this drilling activity, particularly in the 1970-78 period, was extremely high: far higher than the worldwide average and the average for the UK Continental Shelf as a whole. For instance, between 1970 and 1978, oil companies discovered oil in one out of every three wells sunk there.

Clearly exploration and development work in this part of the North Sea has reached a comparatively mature stage, particularly on the major tilted fault blocks. According to Mr. Fowle, the few remaining unexplored blocks are relatively small—but obviously have high potential for successful discoveries.

Companies will have to accept that future fields will be much harder to find than Murchison. They may be hidden in traps associated with complex faulting or orogenic; traps difficult to identify without drilling. (A case in point is the Brae Field, much further south. No less than 13 wells have been drilled on the Brae structure which is thought to be a series of linked stratigraphic traps.)

In addition, it is quite possible that oil found in such traps at levels below 12,000 ft will—because of the nature of the rock—flow far less freely than the oil encountered in the northerly fields now under development.

Oil analysts at stockbrokers Wood, Mackenzie have shown that companies with interests in these northerly fields can, in the main, expect to recover between 40 and 50 per cent of all the oil trapped in the reservoir rock. Murchison's recovery factor, for instance, is put at about 40 per cent, while those with interests in Thistle, Statfjord and, perhaps, Magnus and Brent can expect to recover half of the available oil.

It may come as a shock to a lay reader that over half of the available oil will be left in the ground, even after a field's development, but this is one of the sad facts of oil industry life.

It is impossible to recover all of the oil in a reservoir. Some of the crude may be isolated from production wells by faults and other geological blocks. Even in a produced zone, a substantial fraction will be left, trapped as tiny droplets of oil in minute rock pores. That said, the recovery factor for Murchison and other northerly fields should be judged against the worldwide average of nearer 30 per cent of the original oil in place.

Looking at the East Shetland Basin as a whole there are some 10 commercial oil fields either on stream, or under development. The amount of oil remaining to be recovered from them is almost 6bn barrels—enough in itself to keep Britain fully supplied with oil for well over eight years.

But it will not stop there: for there are a number of other development projects in train in the area. And again Conoco and its Murchison partners (Gulf and BNOOC) could play an important part.

The trio are among an eight-member consortium expected to use a revolutionary platform design for the exploitation of the Hutton Field which lies between the Cormorant and Brent discoveries. A decision to apply for Government development approval is expected shortly. The platform system being considered by Conoco, as the field's operator, would not be a steel structure as in Murchison's case, but a floating structure tethered securely to the seabed.

## Valuable

Such a system is considered to be particularly applicable to deep water fields. It seems, therefore, that Hutton might be used as a test bed for the design. Hutton does not lie in particularly deep waters compared with some North Sea reservoirs—482 feet to be exact. Murchison, by comparison, lies under 512 feet of water. However, the platform's performance there will provide valuable information to Conoco and the industry at large.

Hutton has estimated recoverable reserves of about 250m barrels. The development system could cost between £600m and £700m.

Located alongside Hutton is the North West Hutton Field which the Amoco group wants to exploit through a conventional steel platform production system. This field (containing between 250m and 300m barrels of recoverable reserves) could cost about £600m to develop.

Further to the north-west, Shell/Essco's Tern Field in block 210/25 looks like being another candidate for development, albeit at a later date and probably after the drilling of further appraisal wells.

Like Hutton and North West Hutton, Tern lies very close to an oil-gathering line in the Brent pipeline system. There is a very good chance, then, that these fields will help to maintain the level of throughput at a time when production from some of the fields developed earlier begins to decline.

This, then, is one of the major advantages of a prolific oil-producing region like the East Shetland basin: Fields can be developed using common transportation systems. Their exploitation can, to some degree, be timed so that maximum benefit can be gained from these costly shared facilities.

And there are encouraging indications that there are more fields still to be discovered in the area. They will probably be smaller than Brent—or Murchison for that matter—but they will be a valuable addition to Britain's reserves nonetheless.

Ray Dafter  
Energy Editor

## Tight controls aid progress

THE \$700m platform for the Murchison oil field is a work of very many hands. Its living accommodation and production systems are the result of a highly complex and closely co-ordinated building programme in the UK, Holland, France and Norway.

Fabricators from these countries won the contracts two years ago to supply the 14 modules, the helicopter deck and the gas flare boom which will occupy about 1.3 acres at the top of the North Sea's most northerly, and second tallest, production platform.

Most of these different components are complete and are

to be transported to the Norwegian coast, from where they will be towed to licensed block number 211/19 in the East Shetland Basin where production is scheduled to begin next summer. When erected on the 25,000-ton jacket, they will bring the total weight of the entire platform to 50,000 tons—and its height to 866 feet—a third higher than the Post Office tower in London.

However, the progress so far in this international construction project is a tribute to the tight management control by Conoco, which for the first time will operate a North Sea oil field, as opposed to merely

being a participant. Conoco went to the length of reorganising itself and formed a special project team of selected staff, directed by Mr. Tom Marr.

This appears to have been a very shrewd move, adding muscle and weight to its determination to achieve progress on as broad a front as possible. Bechtel International acted as project services contractor, but Conoco people made the major decisions with work following as close as possible to the plans.

The reasoning behind this tight control was to avoid the expensive delays experienced on other North Sea fields caused partly by letting builders design the platforms as they went along.

The design of all the "top side" facilities was entrusted to Matthew Hall Engineering, which has been involved in seven other North Sea platforms. It designed the drilling facilities, oil and gas production, water treatment and injection, living quarters, utilities, safety systems and module design, leaving the finer details to Bechtel, whose supervisors worked alongside Conoco's own men in the various fabricators' yards.

A major feature of Matthew Hall's approach was the building of design models, believed to be the first time such a method has been used in constructing an offshore platform. It is now following a similar system for the platform of British Petroleum's Magnus Field.

It was in late 1978 that Matthew Hall was appointed to plan the superstructure of the Murchison platform, comprising 16 prefabricated modules, for a production of 184,000 barrels a day, based on test production wells and 17 for sea water re-

## MURCHISON PLATFORM—THE MODULE MAKERS

RDL North Sea, Teesside  
Two accommodation modules and helicopter deck.

William Press Production Systems, Tyneside  
Two production processing modules;  
Compression module and gas sales module.

Ponticelli, Bordeaux  
Two wellbay modules.

Whessoe, Teesside  
Drilling power and mud modules and drilling substructure.

De Groot, Rotterdam  
Two utilities modules.

Whessoe, Teesside  
Switchgear and heat recovery unit.

A/S Nymo Mek. Verksted, Grimsstad  
Flareboom.

injection into the oil field.

The living quarters were to house 188 personnel in a "warm and cheerful atmosphere," which could be self-sufficient for three weeks, working 24 hours a day, for 35 or 30 years. The brightly-coloured fabrics and furnishings were to dispel any feelings of claustrophobia.

The result has lived up to this brief. The Murchison accommodation quarters are possibly the best available on the North Sea. Descending by lift from the helicopter deck, the new arrival finds himself in a bright carpeted reception area worthy of a de luxe hotel. After work, he can write a letter in the lounge, read in the library, play on the full-size billiards table, watch a film in the tiered cinema with its 100 seats, or wash his clothes in the launderette.

The aura of comfort is increased by Conoco's requirement that the two three-storey

modules should be built of stretched steel skin rather than hung on heavy frames. On the interior, stainless steel surfaces have been avoided, in contrast to the "fish shop" appearance of quarters on other offshore platforms.

Mr. Tommy Tucker, Matthew Hall's Murchison project manager, who visited the finished accommodation modules at Redpath Engineering's Linthorpe Dismantle yard on the Tees in June, later said that they were among the best "if not the best so far."

The yard itself was praised by Mr. Dennis Gregg, Conoco's vice-president and general manager of the Murchison project, who said the work of Redpath, a subsidiary of Redpath, Dorman Long, was "a credit not only to Teesside, but to the UK as a whole." Whenever components had failed to arrive on time the yard's personnel had shown themselves to be "good scramblers," he said.

## Contracts

RDL, which also built the helicopter deck, was one of three UK fabricators which won contracts for Murchison modules. The other two were Whessoe, RDL's neighbour on the Tees, and William Press Production Systems, on Tyneside, which won two packages each.

The European fabricators were Ponticelli, in Bordeaux, De Groot, Rotterdam, and A/S Nymo Mek. Verksted, Norway.

By and large, they appear to have vindicated those who awarded the contracts. Only William Press has failed to complete some of its work, suggesting that it may have been unwise to give it more than one package of modules to construct. William Press, however, has blamed delays on extensive design changes made in the course of construction.

Yet all the contracts were won against keen competition in a market strongly favourable to the customer. Initially, 34 contractors were approached out of more than 80 in the UK, Western Europe and Scandinavia. The quotations were then judged on the basis of 200 variable factors, and awards were made on a weighted points basis. Since this produced a list of more than 30 viable fabri-

CONTINUED ON  
NEXT PAGE

## Congratulations to Conoco

Rig Design Services are proud to have been associated with the design and fabrication of the drilling facilities for the Murchison project.

**RDS**  
Rig Design Services Limited

4 Great Portland St., London W1N 5AA Tel: 01-637 8544 Telex: 27383



### Bechtel extends congratulations to Conoco on tow-out of the Murchison jacket structure

In 1980 more of the energy treasures of the North Sea will be available to the United Kingdom when the jointly owned Conoco, BNOOC and Gulf Murchison Field comes onstream. Bechtel congratulates Conoco for the timely completion of the Murchison jacket structure and extends best wishes for continued success on the Murchison Field development.

Bechtel Great Britain Limited is proud to have a role as the Project Services Contractor assisting Conoco in the development of the Murchison Field. This represents the fourth offshore field development project Bechtel has identified with in the United Kingdom sector of the North Sea since 1972.

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## MURCHISON FIELD PLATFORM III

# Boundary problems

WHEN Mother Nature distributed oil and gas fields around the world she had little regard for national boundaries. This is becoming apparent in the North Sea where some of the most attractive fields — Statfjord, Frigg and Murchison — straddle the UK/Norwegian median line.

This gives rise to a number of problems. For a start, the Governments of each country are anxious to make sure that their own natural portions of cross-frontier fields are exploited to their maximum potential. This is important in terms of each country's tax-take and oil supply security.

Secondly, it gives rise to problems between the two groups of partners on each side of the boundary. In Murchison's case, these groups involve three on the UK side, and nine in Norway, although Conoco has a stake in each.

Thirdly, there is the problem of transportation. Will the oil and/or gas be landed in Britain or Norway? Usually, the pragmatic solution would be dictated by the consortium with the bigger share of the field. And this is the case with Murchison.

### Reserves

Murchison contains an estimated 350m to 400m barrels of recoverable reserves of which—according to the average estimates of the various companies involved—some 83.75 per cent are under British waters. The appointment will be re-determined several times during the life of the field, however, and it will not be until towards the end of the production cycle that the partners will be sure of the field's exact position.

As it is, the partnerships feel that a higher proportion of the reserves are to be found on the British side than was thought shortly after the field's discovery in 1975. Then, it was considered that about 75 per cent of the reserves were British.

Coincidentally, recent studies of the nearby Statfjord field seem to have confirmed a similar trend although in this case the major part of the reserves is in the Norwegian sector. Recent reports have suggested that the British partners in Statfjord—Conoco, Gulf and British National Oil Corporation—could have as much as a 15.9 per cent share of Statfjord instead of the presently designated 11.12 per cent share. If that increase is confirmed it could boost Britain's share of recoverable reserves by as much as 140m—such is the size of Statfjord.

Statfjord and Murchison not only are located very close to each other (they are in adjacent blocks in each of the UK and Norwegian sectors), but they also involve the same groups of companies. Consequently, the idea was raised within the field's consortia that a special trading arrangement should be set up for Statfjord and Murchison oil.

In essence, it was suggested that those with interests in the UK sectors of the two fields should handle all of the Murchison oil (the reservoir being mainly in the British sector) while those companies

with a stake in the Norwegian sectors should be responsible for the distribution of all of Statfjord's crude. Such an arrangement would have been an extension of crude oil swap deals which are commonplace within the oil industry.

Although the concept is simple, it would need some complicated refinements; the groups would have to agree on ways of balancing unequal quantities of oil which, in themselves, are of a slightly different quality.

For instance, the Murchison crude has a gravity of 37 degrees API whereas the Statfjord oil is a little lighter, between 37.9 degrees and 41 degrees API.

The swap idea has been shelved, at least for the time being, and the Murchison and Statfjord distribution systems are being developed separately. Murchison's oil will be transported ashore via the Brent Pipeline System, jointly owned by the participants in the Brent, Dunlin, Thistle, Cormorant and Murchison fields.

First, the Murchison crude will be taken by a 16-inch diameter pipeline to the Dunlin Field, some 10 miles away. This line will be wholly owned by the Murchison participants.

From Dunlin the oil will be carried in a 22-inch diameter pipeline to the Cormorant Field. This particular stretch of the Brent system will be shared by interests in the Dunlin, Thistle and Murchison projects. Finally, the crude will be transported through the main 36-inch Brent trunkline, from Cormorant to Sullom Voe in the Shetland Islands, some 84 miles further on.

The Murchison partners have a 12.8 per cent stake in the Brent pipeline system, a proportion dictated by the level of Murchison's peak production. It is a stake which was originally earmarked for the Hutton Field partnership (seven of the eight Hutton partners have an interest in Murchison anyway). The Hutton consortium is expected to announce its own development plans shortly with the field's oil possibly being fed into the Brent system via the North West Hutton Field.

### Facilities

The Brent system—like the major Ninian Field pipeline—feeds oil into what is fast becoming Western Europe's major oil terminal. The Sullom Voe project will cost over £1bn on current planning although it is quite likely that further facilities will have to be provided as new discoveries are made to the north, west and east of the islands.

Sullom Voe is designed at present to handle 1.4m barrels a day of crude oil—the equivalent of about 70 per cent of Britain's domestic oil needs. Construction work is now about 60 per cent complete and current crude oil throughput is running at approximately 480,000 barrels a day.

A combination of construction delays, both offshore and at Sullom Voe, will mean that it will be towards the end of next summer at least before the terminal will be able to handle "live" crude, that is crude oil

containing gas and natural gas liquids. The terminal can, at the moment, accept only "dead" crude that has been processed offshore.

The gas needs to be separated from the oil to yield products that can be safely transported. By a process of heating and de-pressurising, the gases will be separated from the oil at Sullom Voe and then compressed, dried and broken down into their individual fractions to feed methane, ethane, propane, butane and some heavier hydrocarbons compounds.

### Plans

The methane and ethane will be used as a mixture to fuel the terminal's own power station while the propane and butane gases will be refrigerated and stored before shipment to the chemical and energy industries.

Present plans indicate that some of the Ninian crude will be the first to be processed in this way, towards the end of the summer of 1980. All being well, the full facilities should be in operation by the winter of 1980-81.

This timescale means that for a short initial period, at least, the Murchison partners will

have to re-inject into the field the valuable natural gas liquids. The dry gas produced with the oil will be used partly as a fuel on the platform and partly as an aid to crude oil production.

Two wells will be used for gas injection and 10 for water injection. The gas and water will have the function of "sweeping" the oil towards producing wells. Eventually the associated natural gas will probably be recovered and sent ashore, possibly via the Brent system.

At least the Murchison group will not be flaring and wasting vast quantities of natural gas. UK last year operators flared 1.5m barrels of gas into the atmosphere an average of 440m cubic feet a day. At the moment, with considerable flaring from the Brent Field, the wasted output is nearer 600m to 700m cfd—some 14 per cent of Britain's needs. Apart from the flaring which normally occurs during the commissioning period, the Murchison partnership is not planning to dispose of its natural gas in this way.

Not that there is as much natural gas in Murchison as there is in some of the other nearby fields. For instance, the

gas/oil ratio of Murchison is an estimated 530 cubic feet per barrel of oil: in Brent the ratio is nearer 1,800-1,900 cubic feet per barrel.

Although the transportation plans of the Murchison partners are well advanced, one important problem remains to be resolved. It is not yet clear how the Norwegian partners will pay for their share of the pipeline transportation costs for they are not members of the Pipeline Operators' Management Committee (POMC) established by the UK groups with interests in the Brent system.

Two particular alternatives are receiving close attention: (a) the Norwegian partners could invest in the pipeline project (perhaps with the UK Murchison partners acting as trustees); or as a second best, (b) the UK partners could carry the Norwegian consortium's share of Murchison production through a tariff arrangement.

Whichever method is chosen—and even the trading option cannot be totally discounted—it is certain that the solution will be found and ratified in time for the start of Murchison oil production next year.

Sue Cameron

## Anglo-Norwegian partnership

IN APRIL 12 oil companies met in London to sign a unitisation treaty on the Murchison field, which straddles the line dividing the Norwegian and UK sectors of the North Sea.

The point of a unitisation treaty is that it enables companies working on either side of the boundary line to undertake a joint development instead of running two separate operations right next to each other. Shares in the joint venture are divided between the Norwegian and UK partners on the basis of how much oil each group has on its side of the line.

Initially it is impossible to do more than estimate how much oil is available on either side of the line. As production gets underway and the picture becomes clearer it is therefore often necessary to renegotiate unitisation agreements.

During the last year this is what has been happening on the Statfjord unitisation field—one of the first to be completed. The Statfjord field was originally divided so as to give 89 per cent to the Norwegian partners and 11 per cent to the UK ones. A Statfjord renegotiation committee has been meeting to consider the new basis for unitisation, but its task is not proving an easy one. The Murchison unitisation treaty gives the UK licensees group an 82.75 per cent share in the field, while the Norwegian partners have 16.25 per cent between them. There are three UK-based partners and nine Norwegian companies involved.

The UK partners are headed by Conoco North Sea, which discovered the Murchison field in 1975 and which is now the operator for both the UK group and for the whole unitised field. Conoco has a 27.92 per cent share in Murchison, as do the two other British partners—Gulf Oil and the British National Oil Corporation.

The Conoco group, which is U.S.-based, has a further share in Murchison via its Scandinavian subsidiary Conoco Norway, which has a 1.63 per cent interest. Statoil, the Norwegian state oil company, has an 8.13 per cent share, Mobil Exploration Norway has a 2.44 per cent share, Norske Shell has 1.63 per cent, Esso Exploration and Production Norway 1.63 per cent, Saga Petroleum 0.30 per cent, Amoco Norway Oil 0.17 per cent, Amerada Petroleum of Norway 0.17 per cent and Texas Eastern Norwegian also 0.17 per cent.

The unitisation agreement on Murchison, which has estimated recoverable reserves of between 350m and 400m barrels of oil, is of course "subject to periodic adjustment as additional information becomes available from development drilling."

The greater part of the Murchison oil is on UK block 211/19 in which BNO, Conoco and Gulf each have a 33.3 per cent share. The rest is on Norway block 85/9 in which Statoil has a 50 per cent interest, Mobil 15 per cent, Conoco Norway, Norske Shell and Esso 10 per cent each, Saga Petroleum 1.88 per cent and Amerada, Amoco and Texas Eastern 1.04 per cent each.

Conoco, the discoverer and operator of Murchison, already has a sizeable stake in the North Sea as a whole, and it expects to be producing over 100,000 barrels a day all told by the mid-1980s. It is the operator

on the Hutton field, where development is expected to go ahead later this year or early next year, and it is also the operator on the Viking gas field.

The group's current and planned expenditure in the North Sea is £500m, and the Murchison field itself has proved to be one of Conoco's biggest investments in a single project anywhere. It has interests in the Statfjord, Thistle and Dunlin oilfields and it carries out substantial exploration work in the North Sea. Last month (July) it made a gas discovery and in March this year it discovered oil on block

Conoco also has a 130,000 barrels a day refinery on Humberside which is ideally sited to take North Sea crude. The refinery, built in 1969, was in fact designed to take low sulphur Libyan crude—a similar crude to that of the North Sea—but a large part of its throughput now comes from the North Sea fields. Part of the production from Murchison will be refined at Humberside.

The group reckons that production from Murchison should start in the second half of next year as scheduled. There have been hold ups in the planned programme for Murchison—mainly caused by the collapse of a giant crane at the Ardersier yard in Scotland and by a strike there—but Conoco is still confident that the field will start production on time.

### Production

The group has introduced a number of new techniques to the development of Murchison, and for the first time work on the platform will be able to go ahead during the autumn months—previously companies have always had to wait for the brief summer weather window. Conoco itself claims it is now beginning to get a reputation for taking a new look at ways of doing things.

Gulf, one of the other major partners in the Murchison field, is investing almost as much as Conoco in the North Sea. The group reckons that by the mid 1980s the North Sea expenditure will total some £480m. By 1983 it expects to be lifting 80,000 barrels a day from the Continental shelf.

It has interests in the Dunlin, Thistle, Statfjord and Hutton fields as well as Murchison, and it is the operator on a number of North Sea blocks though not on any fields as yet. Exploration work is now taking place on some of the blocks where Gulf is the operator and the group sees the North Sea as an area of increasing importance.

Gulf will be looking to the North Sea as a major source of revenue over the next ten years, and it points out that the continental shelf is already the biggest single investment area for the group outside North America. It says that in the next few years the North Sea will be a "key" place for Gulf investment.

The third of the three major partners in the Murchison field is the British National Oil Corporation. The corporation has played a growing part in the North Sea since it was set up in 1975 and now participates in the development and operation of all UK continental shelf officials. Participation agreements give it the right to buy 51 per cent of most North Sea oil produc-

## Oil production CONTINUED FROM PAGE 1

early 1983 it will be ready to produce as much as 40m cubic feet a day of natural gas.

A short 15-mile pipeline link to the Brent gas trunkline could be planned and built in about 12 months. But if the new gas-gathering trunkline is built alternative plans will have to be developed for Murchison gas if flaring is to be avoided in the early 1980s.

Murchison is being developed by a group of 12 companies. The field straddles the median line between the UK and Norwegian sectors of the North Sea, but the various participants have agreed to exploit the field as a single unit in a similar manner to the much larger Statfjord field nearby.

The initial unitisation agreement was settled earlier this year. It established that the largest share of the field, 89 per cent, lies on the UK side with the remainder in the Norwegian sector. The shares could be revised later as more know-

ledge becomes available from the development drilling.

Conoco is a member of both the British and Norwegian groups. On the UK side its partners are Gulf and the British National Oil Corporation, while on the Norwegian side it is part of a nine-company group consisting of Amerada Hess, Texas Eastern, Amoco, Exxon, Mobil, Saga, Shell and Statoil.

Conoco and Gulf were the first oil companies operating in the North Sea to reach a participation agreement with the UK Government covering the sale of part of their Murchison crude oil to BNO. As a result they received one of the most favourable deals secured by any North Sea operators. BNO will have an option to buy no more than 23.2 per cent of each company's gross oil production from Murchison, at market price, and the full option can be exercised only in the sixth year after commercial production begins.

The unitised development has proceeded fairly smoothly, but harsh words were exchanged between the Norwegian and UK Governments earlier this year when it was realised that only a small part of the work, probably less than 5 per cent, has been undertaken in Norway. The main construction work of equipment has been done at five yards in the UK, Holland and France, and Britain has taken more than 70 per cent of the contracts for equipment and services.

The row blew up when the UK began to complain that it was missing out on orders for the other, much larger, Anglo-Norwegian field development, Statfjord. The dispute was defused, however, when it was shown that Conoco had placed all its contracts on the basis of open competitive bidding. At the time the Norwegian yards proved uncompetitive against the prices offered by most of their European rivals.

## MATTHEW HALL PUSH THE BOAT OUT



**MH** Responsible for the design of production facilities for Murchison.

Matthew Hall Group, Matthew Hall House, 101-108 Tottenham Court Road, London W1A 1BT  
Tel. 01-636 3676. Telex 23764

Ray Dafter

**"We demanded a high quality job on a tough schedule and you delivered the goods on time."** Dennis Gregg, Vice President, CONOCO.

Mr. Gregg was referring to the Murchison accommodation modules and helideck—another multi-million pound contract supplied on time by Linthorpe Dinsdale, Redpath Engineering's module construction yard on the River Tees.



**Redpath Engineering Limited**

Linthorpe Dinsdale, Middlesbrough. Telephone: 0642 240471 Telex: 587106

a subsidiary of the British Steel Corporation

## Controls

CONTINUED FROM PAGE 11

ators, the main consideration turned out to be price.

This in turn was influenced by the fabricators' ability to handle the large barges, up to 100 metres long, needed to transport the finished modules, since any double handling would increase the cost. Where two similar fabricators gave an identical price, the final decision would be made on an assessment of their respective track-records for previous work.

However, Matthew Hall suggests that the cards were stacked slightly in favour of UK applicants. Of five fabricators invited to tender for each of eight module packages, three might well be British, theoretically giving UK companies a 60:40 advantage over foreign interests.

### Differences

Assessing differences between UK and Continental yards, Mr. Tucker notes that the latter have in the past enjoyed a longer working week. But they were now coming closer to the 40-hour week common in this country. They would have to maintain their performance by making premium payments or putting more people on a job, where that was possible.

Even though a yard had to be large enough to handle some big projects, big was not always essential in terms of management. Ponticelli was small enough to let the customer feel he had some say over the progress of his contract. On the other hand, the Dutch Sea Group was large, but had strong internal control.

A complaint heard about

William Press was that it was reluctant to take advice. Since it did not appoint a project manager, one had to talk to the yard manager.

Seen through William Press's eyes, the problem looks different. The yard admits that it has had labour troubles, including a three-month strike on the Tyne in 1973, but claims that it has since adopted a "new approach" which works very well, including weekly shop stewards' meetings. (Giving to some "niggling" half-day disputes "some days" had been lost, but it had enjoyed a "good relationship" with the Conoco site team at its Howdon yard.)

It rejects the full responsibility for failure to complete some of the Murchison modules, blaming high winds in January, which cost it a day and a half, and design changes by Bechtel, accounting for more than 50 per cent of the contract, and doubling the original design weight.

Whatever the reasons, delays in completion of modules were made less crucial by the three-month delay in floating out the platform's steel jacket at Ardersier in Scotland. And any additional onshore cost can be set against the cost of completing offshore work after installation off-shore—said to be ten times greater.

Time also can be partly regained. When he visited Linthorpe Dinsdale recently, Dennis Gregg was hopeful that more than two months of the three-month delay on the jacket would be compensated by employing different barges and that, barring very bad weather, the Murchison platform would be hooked up on target by October.

Maurice Samuelson



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Gulf is also sharing in a new £350 million

project involving its refinery in Wales. This extension, in technical terminology a 'cat cracker,' increases the amount of petrol, diesel fuel, heating oil and other products that can be manufactured from crude oil.

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2. What will happen to the price of your shares if this merger does not take place?

We think we know what his advice will be.

And we look forward to a long and fruitful association with you.

 **DALGETY**



## THE MANAGEMENT PAGE

John Elliott on the hopes and problems of an industrial co-op on Ulster's frontier with the Republic

## Adventurous co-operation on the border

THE TROUBLE-TORN border area of Northern and Southern Ireland is not one of the first places that one would look to find a potentially significant development in community-run co-operatives. Yet such a development is taking place in the Catholic-dominated Ulster town of Newry and in nearby Crossmaglen. It is the result of an initiative by the area's retailers and businessmen who are concerned that the sectarian troubles of the past decade are leaving them and their children with little industrial or commercial future.

Unemployment in the town of Newry, which has a population of 15,000, stands at 30 per cent—the third worst level in the UK. There is little prospect of school leavers being found jobs, or of new small firms being found industrial premises. The town is sited within a few miles of the Irish border in an area which the local Catholics insist was ignored until relatively recently by the old Stormont Government.

A few miles away is the Republic stronghold of Crossmaglen—a desolate village dominated by its beleaguered army post which was visited by the Prime Minister during his flying visit to Ulster last month. Now, because of the initiative taken by local businessmen, an old factory in the centre of

Newry has been turned into the Newry and Mourne Co-operative Society's headquarters, providing employment for 160 people. There is a Government-funded training workshop teaching 70 local youngsters various skills, plus premises occupied by a handful of other small businesses. In Crossmaglen, an old building just across the street from the army post is being renovated into another Government-backed training centre for about 30 school leavers.

## Survival

The venture is regarded as a co-operative because it is owned by some 600 local people—mainly retailers and industrialists—who have subscribed between £1 and £1,000 each to the share capital of the society (although it owes its survival at present not to these subscriptions but to a £350,000 a year subsidy from the Northern Ireland Department of Manpower Services job creation programme).

The idea for the co-op came about six years ago from members of the local Credit Union—a co-operative type of local savings group which is quite common in Ulster (where 100 such unions have 84,000 members and £16m total assets) and also in North America. Credit unions can only invest in gilt-

edged securities, so the Newry union could not itself start industrial businesses.

The union's members got together and decided to form a separate co-operative registered under Ulster's Industrial and Provident Societies Act with the primary aim of creating jobs and industrial opportunities in the area. Under the Act, shareholders have only one vote each, irrespective of the size of their investment, and only 5 per cent of the profits are distributed.

About half the retailers in the town have subscribed towards the co-op, along with some owners of industrial businesses; but hardly any of the employees have become shareholders. In total about £50,000 was collected in 1975-76 by a fund-raising committee which organised street and bingo hall collections, a town square "barometer" showing progress, car stickers, and other activities. The Allied Irish Banks, which have a large branch in Newry, backed the project to the tune of £35,000, and another £25,000 (making a total of £100,000) was raised from a businessman with an interest in a factory bought by the co-op.

To begin with, the co-op started an upholstery business, which eventually failed because of a lack of local upholstery skills, a lack of orders, a poor product range, and inadequate

supplies. Then a local Reckitt and Coleman potato-processing factory which had closed, putting 148 people out of work, was bought by the co-op with its £100,000 and was christened the WIN (Work in Newry) Industrial Estate.

The co-op's policy is to spin off registered companies as subsidiaries to run its various projects, each company's shares being split in two with the co-op holding all the voting shares while other interests can have non-voting shares. This is done primarily to ensure that the policy-making is kept in the hands of the co-op itself which is run by a 15-man management committee on behalf of the 600 shareholders. The arrangement also helps to protect the co-op from the impact if any of its subsidiaries fall and close down (as happened eventually to the upholstery company).

In line with its devolved policy, the co-op set up a company called Newry and Mourne Developments to run the old Reckitt and Coleman factory which covers 60,000 sq ft. The factory now has a number of small firms as tenants employing a total of 60 people and carrying on businesses that include a car parts distributor, a Volvo luxury servicing depot, and engineering workshop, a bathroom fittings manufacturer,

and a car-seat cover manufacturer. Many of these are new businesses.

The training workshop takes up the major part of the factory and is run by a separate company called Mournecraft set up in December 1977. This is funded with the £350,000 Government grant covering one-year training periods for the school leavers, all of whom must be under 19 and have been unemployed for at least six months to qualify for the Government grants.

## Frivolous

Mournecraft has not yet started selling any goods and is regarded primarily as a training concern. But its work provides the base for the co-op's future because it is hoped that several of the 80 or so youngsters being trained by 17 instructors will become good enough at their crafts to set up in business themselves, either within the co-op or elsewhere in the town.

They are learning skills such as leatherwork, wood carving, harp and guitar making, furniture making, screen printing and pottery.

Scarcely say that these are frivolous skills that will stand the youngsters in little stead. The co-op's general manager,

Frank Deloehan, who was one of the creators of the initial co-op concept and runs the business with a staff of four, denies this, however. He and the local businessmen who have encouraged the various co-op companies believe that there is a good enough tourist trade throughout Ireland to take the goods and that the dwindling basic industrial life of Newry provides little incentive for youngsters to learn basic industrial trades. The co-op may also become a subcontractor for certain lines to other businesses.

All this, however, is still in the future and the only commercial record of the co-op so far (apart from the training workshop and the rental of small business premises) is the upholstery business that eventually shut down, and another school furniture venture that has had to be shut, possibly only temporarily, because of a lack of orders. This can be traced back to cuts in government spending.

But the leaders of the co-op are pleased with what they have achieved, even though they have yet to make a significant mark on the unemployment of Newry. They are now developing the training workshop in Crossmaglen and have their eyes on another recently closed factory in Newry. They also want to develop other projects such as



Harp-making: one of the crafts being learnt by youngsters in the workshops. It is hoped that, once trained, they might start up their own businesses.

providing a managerial and administrative advice service for small firms, and a skills bank where the expertise of large companies can be directed towards small firms. A marketing company is also being set up which might enable the co-op to become an agency for hand-craft goods made and sold in Ireland.

Like other co-ops, however, the Newry venture is short of capital and still carries out

regular fund raising. Ultimately its founders would like to see it developing as a centre for a community of co-ops like the Mondragon bank and managerial advice centre in the Basque area of Spain, and as a State-backed development agency for the area.

First however it has to show that it can make a success of its initial role as a community co-op set up to "create jobs and make profit."

## Management abstracts

These summaries are condensed from the journals of abstracts published by Arbor Management Publications. Readers wishing to consult original texts should write to: P.O. Box 23, Wembley HA9 8DJ.

Co-ordination of National Legislation regarding Annual Accounts. L. Lourdes-Petit in *European Journal of Accountancy* (Journal UEC) (Fed. Rep. of Germany), Oct. 78/Jan. 79: p. 277 (19 pages). Compares in tabular form the requirements of the European Economic Community's 4th Directive and of the proposed 7th Directive with International Accounting Standards and with the accounting standards and procedures followed in UK, France and West Germany.

The Further Education of Company Personnel. D. Visser in *Manager Magazine* (Fed. Rep. of Germany), Jan. 79: p. 80 (4 pages, illus. in German, English version available).

Reviews the extent to which named German companies spend money to provide "further education"—both in-house and external—for their employees, with particular reference to recent efforts to economise, and the effect such efforts have had (or have not had) on bookings for external courses.

Back to Basics in Marketing. H. R. Arnold in *Abstraktwirtschaft* (Fed. Rep. of Germany), Mar. 79: p. 26 (1 page, in German, English available).

A German marketing man suggests that marketers now rely excessively on information of one sort or another, so much so that they have little or no time left for direct contact with their market (which cannot be delegated).

A SAD story appeared in newspapers recently about a 37-year-old man who died as the result of being "cut by a rosebush." The cause of death was tetanus, a cruel killer of man and animals throughout the ages and everywhere in the world.

Doctors in the admitting hospital "found two pieces of rosebush in the thigh wound," said the report. Presumably these were thorns from dead branches, because living thorns may scratch badly but do not break off readily and so are rarely found in wounds.

Tetanus is not uncommon; at the best it is serious and at the worst fatal. It is caused by a bacillus or clostridium which is happiest growing in decaying matter in the absence of oxygen—in other words, it is an anaerobic saprophyte. Ideal conditions exist in manured ground and in the intestines of cattle and horses. Reproduction is by the production of spores which can live for many years

## EXECUTIVE HEALTH

## The terrors of the tetanus toxin

even under adverse conditions and can, so it is said, withstand up to 20 minutes of boiling.

Invasion of man by these organisms is not intentional. A large gaping wound—unless it is stitched while still contaminated—is of no use to Clostridium tetani because, although there is tempting dead tissue, there is also air, which is unattractive to the organism.

The most desirable residence for Clostridium tetani is a puncture wound—and what could be better than that occasioned by a dead rose-thorn? The skin closes behind and produces a snug, airless den wherein the creature can enjoy dead tissue.

If this was all that it did, there would be little to worry

about; unfortunately, a powerful neurotoxin is produced and this tracks up the nerves to the central nervous system, taking as little as four days from a situation near the brain, but sometimes up to four to six weeks from distant parts such as the feet.

Although local reaction at the site of entry is, unhappily, trivial, the events following the arrival of the toxin at their target are appalling. Often spasm of the muscles used for eating are affected first and cause "lockjaw," as the disease is known colloquially.

In paradoxical contrast to the sufferings of the patient, he may appear to smile grotesquely (risus sardonicus) due to facial muscular paralysis. Within a few hours or days, the muscular spasm spread to the limbs and trunk, and arching of the back can resemble the effects of strychnine poisoning.

Many muscles become involved in violent and painful spasms and some patients die early because of involvement of

the throat and neck so that asphyxia ensues. Even if the patient is spared this horror, the painful, frequent spasms (often excited by noise) steadily increase, and his life may be terminated by heart failure or utter exhaustion.

Until the early years of this century, tetanus deaths were very common. Then, during the great advances begun by Pasteur, an antitoxin was produced. This consisted of specific serum (obtained from treated horses) which neutralised the tetanus toxin. Although rarely successful if the disease became established, it was of value in its prevention.

It was invaluable in the 1914-18 war, in which the disease was tragically common in the well-manured farmlands of Flanders, wherein deep wounds and clostridium tetani were in abundance. There was a major problem. Some people are allergic to horse serum and thus the passive immunity obtained sometimes proved as deadly as tetanus.

## BY DR. DAVID CARRICK

## The terrors of the tetanus toxin

The injection of adrenalin could reverse the process if given in time.

In later years, means for providing active immunisation were introduced. In the modern versions, clostridium tetani toxin is treated in laboratories with formalin and rendered harmless. But the human body fails to realise this and produces its defensive means just as it would for the genuine article. Such protection lasts for several years.

Although very severe allergic reactions do not occur with this, some local swelling and pain may be troublesome and, perhaps, a serum-sickness (which is exceedingly unpleasant) may occur eight to ten days later.

This vaccination programme (a course of three injections) against tetanus is a somewhat complicated matter—for the doctor rather than the patient. All casualty departments of hospitals will know about it, however. Immunisation to produce immunity can still lead to problems with allergies as

horse-serum is still employed, and all patients should inform the treating doctor of any allergic problems from which they have suffered.

Fortunately, a relatively recent product, Humotet—which is obtained from human donors who have high levels of antitoxin following active antitoxin vaccination—is available and appears to be very innocent as regards allergic manifestations.

Treatment of established tetanus nowadays is by tetanus antitoxin, but the major problem has always been the alleviation of the dreadful muscular spasms. In 1878 an eccentric naturalist suggested that the deadly poison, Curare, which paralyzes musculature, might be the answer. But it was not until the mid-1930s that major work was carried out with the poison and success was obtained. Now a modern product, Tubocurarine, is used with safety and frequent success.

But nobody should forget that tetanus is vile and deadly. Everyone should be vaccinated. If anyone is unfortunate enough to receive a puncture-wound or any injury in which pathogens can lurk, they should clean it thoroughly, use antibiotics, and then obtain appropriate anti-tetanus treatment.

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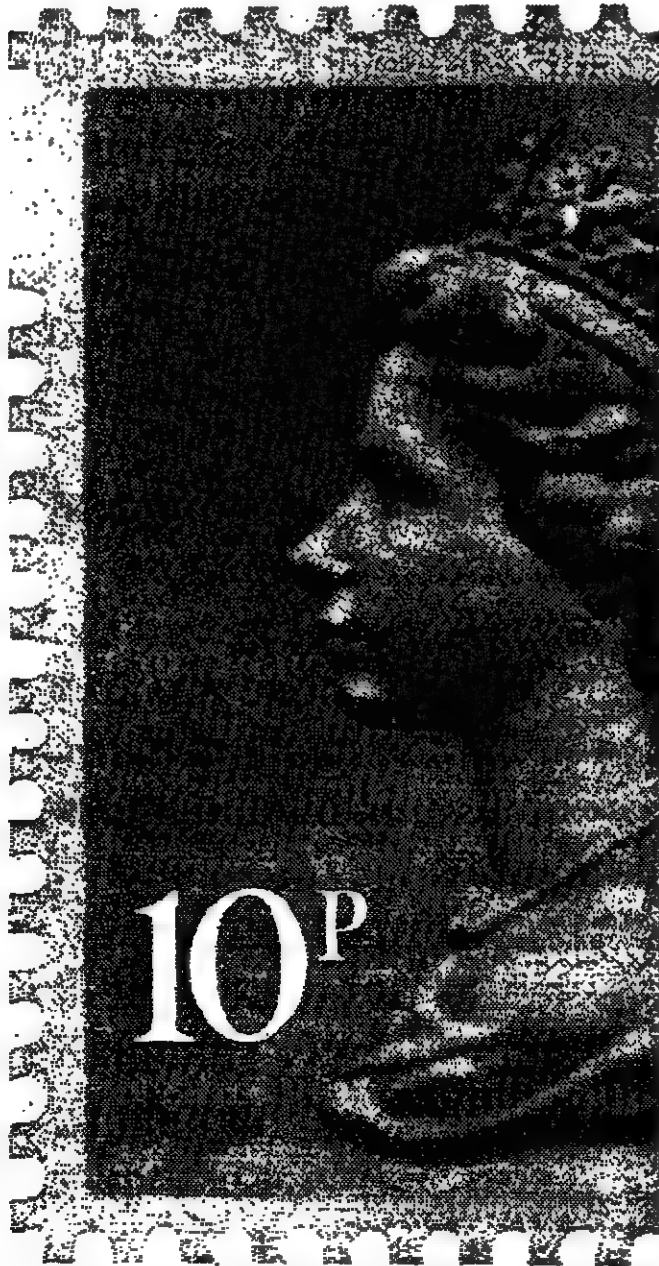
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More than half the companies examined in a survey by the Department of Industry had an inefficient storage system.

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It might seem that the answer to the problem is bigger warehouses. In fact, the answer is usually smaller warehouses, as many of our case-histories show.

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Storage area was halved, which freed space for

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Picking times were reduced by 60%.

The investment paid for itself in 18 months.

In another case, we made use of wasted roof-space with high rise, narrow-aisle pallet racking, together with two stacker cranes.

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Product damage was reduced by 80%, overheads by 30%, and picking times by 20%.

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# Technical Page

EDITED BY ARTHUR BENNETT AND TED SCHÖETERS

## COMMUNICATIONS

### New group formed to promote teletext

HAMEROS BANK, together with Modular Computer Services Inc. (MODCOMP) of the United States and Alphametric Keyboards of Woking, have formed a joint company which will seek a leading position in the market for providing custom-built systems for commercial "Viewdata" users.

Bishopsgate Terminals, as the new group has called itself, was announced at the recent opening of MODCOMP's first computer manufacturing facility outside the United States—at Wokingham, Berkshire.

Organisations currently selling Viewdata systems are strongly influenced by the home-user market, and the opportunity for tailor-made hardware in business applications has been neglected to some extent. Bishopsgate has been formed to design, manufacture, and sell to the commercial market.

Current Post Office estimates suggest that 70,000 domestic TV

sets will be connected to Prestel in 1980. Bishopsgate's estimate is that the potential private commercial Viewdata market will equal this in money terms. It believes the commercial market will continue to grow strongly thereafter for several years.

Potential customers include the established database. For this user, the Viewdata system offers an efficient and economical method of disseminating information from that database to executives who "need to know." Each location will be able to access the database via a robust commercial keyboard and have the information displayed on a colour TV screen in easily-read page form. Information can be transmitted (via automatic dialup) by ordinary telephone lines, by leased PO lines and by internal lines.

Bishopsgate Terminals, Molly Miller's Lane, Wokingham, Berks., RG11 2QT. 0734 788711.

### Compact mobile radio

THE K9 series of British designed and made vhf mobile radio equipment is offered by Blick International Systems, employing frequency modulation and operating between 146 and 174 MHz.

Base station unit is rated at 20 watts and has 12.5 kHz channel spacing for up to six channels. The unit measures 380 x 102 x 225 mm and weighs 7 kg.

The mobile set is of solid

state design and has an output of 20 watts rf, with a built-in loudspeaker delivering three watts of audio power. Dimensions are 185 x 52 x 144 mm and the weight is 1.3 kg.

Full details of the K9 series, which can be purchased or rented, and for which Home Office approval has been obtained, can be obtained from the maker, Blick International Systems, Bramble Road, Swindon, SN2 6ER (0793 692401).

## INSTRUMENTS

### Will detect unwanted gases

KEMTRONIX OF Compton, N. Newbury, has new portable ozone and nitrogen oxides monitors, Models 2000 and 2200. These will simplify and bring down the cost of air pollution surveys.

Both are portable. They can either be battery or mains powered and even with battery packs installed weigh less than 22 lbs each. The monitors use a highly specific chemiluminescence detector system which is based on the measurement of light generated during the reaction between any of the gases and ethylene.

Since each of the reactions emits light of a characteristic wavelength the system is highly accurate and insensitive to interfering gases such as sulphur dioxide, which may be present in the reaction mixture.

A built-in ethylene gas storage bottle with sufficient capacity for up to ten hours monitoring is incorporated in both monitors. Sampler gas concentrations are directly readable in ppm from the large meter display on the front cover and each model has switch-selectable sensitivity ranges of 0.05, 0.10, 0.20 and 0.5 ppm. The minimum detectable concentration is about 0.1 ppm for both ozone and nitrogen oxides. Zero drift in the Model 2200 is kept to below 0.01 ppm over an 8 hour sampling period by the incorporation of a 5 second cycle switching system, for the measurement of NO and NO<sub>2</sub>.

Customers on the books and the items for hire vary in cost from about £7.50 to £350 a week. The problem of checking where each instrument is, its availability, the credit position of the customer and similar business parameters is taken care of by an Allied Business Systems machine with terminals in the major departments of the company.

The company claims to be able to give a telephone inquiry an answer in a couple of minutes and if the unit is available, supply it within 24 hours. Each time changes of any sort are initiated by one of the terminal users, the whole system's data is updated straight away, with no chance of double booking.

Managing director Patrick Robson believes there is still a big untapped market for his company's services among companies that do not appreciate the advantages of hiring rather than purchase; capital does not have to be raised and there is far less prospect of equipment being left idle on shelves.

More from 27 Camden Road, London NW1 9NR. (01-267 3263).

into the electronic pack. Small controlled zero and span drift rates are essential for the accurate determination of ozone levels.

This is achieved in the Model 2000 by regulating the temperature in the photomultiplier detector and the reaction chamber along with their associated electronics. Built-in audible alarm systems clearly signify whenever a preset threshold concentration level of detectable gas has been exceeded. There are also built-in outputs for permanently recording levels on a chart recorder.

Switch-selectable self diagnostic facilities are built into both instruments with internal systems status being displayed on the front panel meter.

Kemtronix is on 063 522470.

### More available for hire

NOW IN a position to offer more than 650 instrument types and with a turnover exceeding £2.5m, Livingston Hire is to move more strongly into the supply of microprocessor development systems.

The company has already committed £40,000 to the purchase of the new Hewlett Packard 64000 logic development system, a universal development device that can be used for products made by a number of the major semiconductor companies.

Livingston has also appointed Jernyn Mogul Systems as supplier of MD5 products available from the majors and will be spending about £260,000 on these items which will be available virtually off the shelf.

Negotiations have also been completed for the opening by Livingston of a subsidiary in Sweden and it is understood that similar plans exist for France for early 1980.

Much of the company's success in the hire of instruments and other small electronic equipments has been due to the early use of a computer system for the control of orders, stock, invoices, credit, etc.

There are now about 2,000

customers on the books and the items for hire vary in cost from about £7.50 to £350 a week. The problem of checking where each instrument is, its availability, the credit position of the customer and similar business parameters is taken care of by an Allied Business Systems machine with terminals in the major departments of the company.

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More from 27 Camden Road, London NW1 9NR. (01-267 3263).

### Has fifty channels

INPUTS FROM up to 50 sensors can be plugged into the front panel of a rugged cassette recorder available from Grant Instruments (Cambridge) Barlington, Cambridge CB2 5QZ (0763 60811).

Measuring 365 by 425 by 150 mm and weighing 7.5 kg the unit has a stainless steel weatherproof case and is intended for the long-term monitoring of quantities such as temperature, humidity, wind speed, rainfall, pressure and solar radiation. The case is weatherproof and the unit will operate in ambient temperatures from -20 to +60 degrees C.

A standard 1 inch tape cassette is used with simple loading and control procedures that can be carried out with the hands gloved.

On each strip of the inputs a level is taken from each sensor, followed by a record of time and identification number. Cycles are initiated at intervals that can be pre-set by the user between one and 999 minutes. The scan itself takes two seconds or less.

Conditioning circuits are available for various kinds of input, and a companion playback device can be supplied.

## FINISHING

### Bare metal coated fast

AN INCREASED range of specialised finishing processes are about to become available at Hankoe Stove Enamelling's, Slough works.

As reported on this page on July 16 Hankoe has spent over £100,000 on new plant and with a reorganised board of directors (Ian MacGregor, chairman, Stirling Moss, C. Dopson and H. Hancock) it aims to provide a fast service—fast processing in the factory because usually the quicker bare metal gets a protective coating the better (especially in view of the rigid coating specifications that are now often demanded) and fast completion and delivery of treated components to the customer.

Delay between processes has been minimised by locating shot blasting equipment close to the painting plant and with two conveyorised infra-red ovens in operation it is now possible to finish 6,000 items in a day.

Apart from the normal shot-blasting work on ferrous components and fabrications, Hankoe specialises in ultra-fine surface finishing. Specially-engineered machines are used for the frosting of fragile glassware; the "pearl lustre" finishing of stainless steel medical equipment; and for meeting the most exacting specifications for the aerospace industries.

Stirling Moss's very close involvement in the Hankoe operation has accelerated the company's work in the motor racing world and many leading constructors and component suppliers now send their work to Hankoe. Restoration of vintage and classic vehicles—a field in which chairman Ian MacGregor specialises—also provides the company with some unusual tasks.

Hankoe's works are at 823 Yeovil Road, Slough, Berks (0753 22779).

### Automatic spray painting

CONVEYORISED PLANT for painting metal pressings and castings, up to 7.5 cm diameter and 33 cm high is being produced by Berridge Engineering, Queens Road, Beeston, Nottingham (0603 258291).

Output is 35 to 48 components a minute using only two operators, one to load and the other to unload the components. As the painting process is automatic using a electrostatic guns, the finish is consistent and paint wastage minimal, claims the company.

Components to be painted are

carried on spindles mounted on a bench level conveyor through an infra-red tunnel which pre-heats them before they enter the spraybooth. There the conveyor takes the parts around the spraying head where they are rotated and coated. A one-coat finish is applied, the solvents evaporating almost immediately because of the pre-heating.

Overall size of the plant is about eight metres long, 2.3 metres wide and 2.2 metres high.

## CONSTRUCTION

### Ensures a very strong fastening

CONVENTIONAL methods of fixing into all types of concrete, and masonry—such as plugs, expanding anchors and shot-fired pins—can now be superseded by a new method called the Tapcon system, announces Buildex (division of ITW) Darville House, 4 Oxford Road East, Windsor, Berks (075 35 57721).

Tapcon anchor taps its own thread directly into concrete, eliminating separate plugs and

screws or inserts of any kind and its double high and low profile thread form is said to give pull out loads more than twice that reached with equivalent size ordinary plugs and screws. System can be used with standard drilling machines with which most tradesmen are already equipped and is completed by the Condrive installation tool and Buildex masonry drill bit.

Dual purpose Condrive tool

drills the hole to the correct depth and diameter and is then used to drive the anchor.

Significant advantages promised by the new method are speed of installation (giving low in-place cost), consistently high pull out loads, no hole alignment problems, easily removable and, as it does not rely on expansion principle (and there are no spalling effects) it can be used for close to the edge fixings.

### Speeds rate of grouting in tunnels

THE SPECIALIST tunnelling equipment division of the Rees Hough group, Tunnequip, says it has developed a tunnel grout pump which speeds up the rate at which backgrouting can be carried out after segmental tunnelling.

The unit which incorporates a 7 hp air-operated pump with

5 cm (2 inch) delivery is coupled to an air motor and the complete unit is mounted on a bogey for operation on either 457mm (18 inch) or 610mm (24 inch) rail track. Grout is delivered at 8,380 litres/hr at 30 metres (1,400 gals/hr at 100 ft) head and operates up to a pressure of 8.5 bar (125 psi).

The pump is reversible for self-cleaning and can be used as a normal pump for clearing accumulated water from the shaft or the tunnel face. More information about the equipment can be obtained from Tunnequip at Cotteshall Works, Godalming, Surrey GU7 1NB (04868 5641).

### More comfortable in the queue

BASIC UMBRELLA concept of existing bus shelters has been superseded in the Royal Borough of Kensington and Chelsea by the installation of a deluxe modular design, occupying an area of 23 by 8 ft, and incorporating a newspaper kiosk and telephone booth.

Sited outside the Odeon cinema in Kensington High

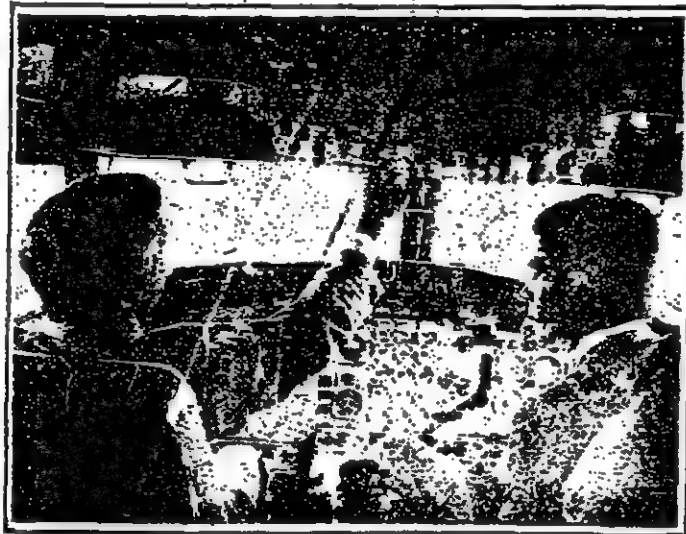
Street, the new shelter heralds the installation of the first 150 new Mills and Allen shelters in London, and it is hoped that the model will be universally adopted throughout the UK.

Variety of different layouts include a kiosk, a PO telephone, split queuing area, art panels and illuminated posters—and the shelter is lit up constantly to discourage vandalism.

Construction features toughened glass surrounds which will carry the logo of the local borough or transport authority and panels which will carry transport maps, timetables, posters and art boards.

More from the company at Broadwick House, 15, Broadwick Street, London W1 (01-498 9541).

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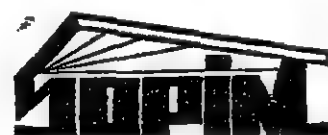
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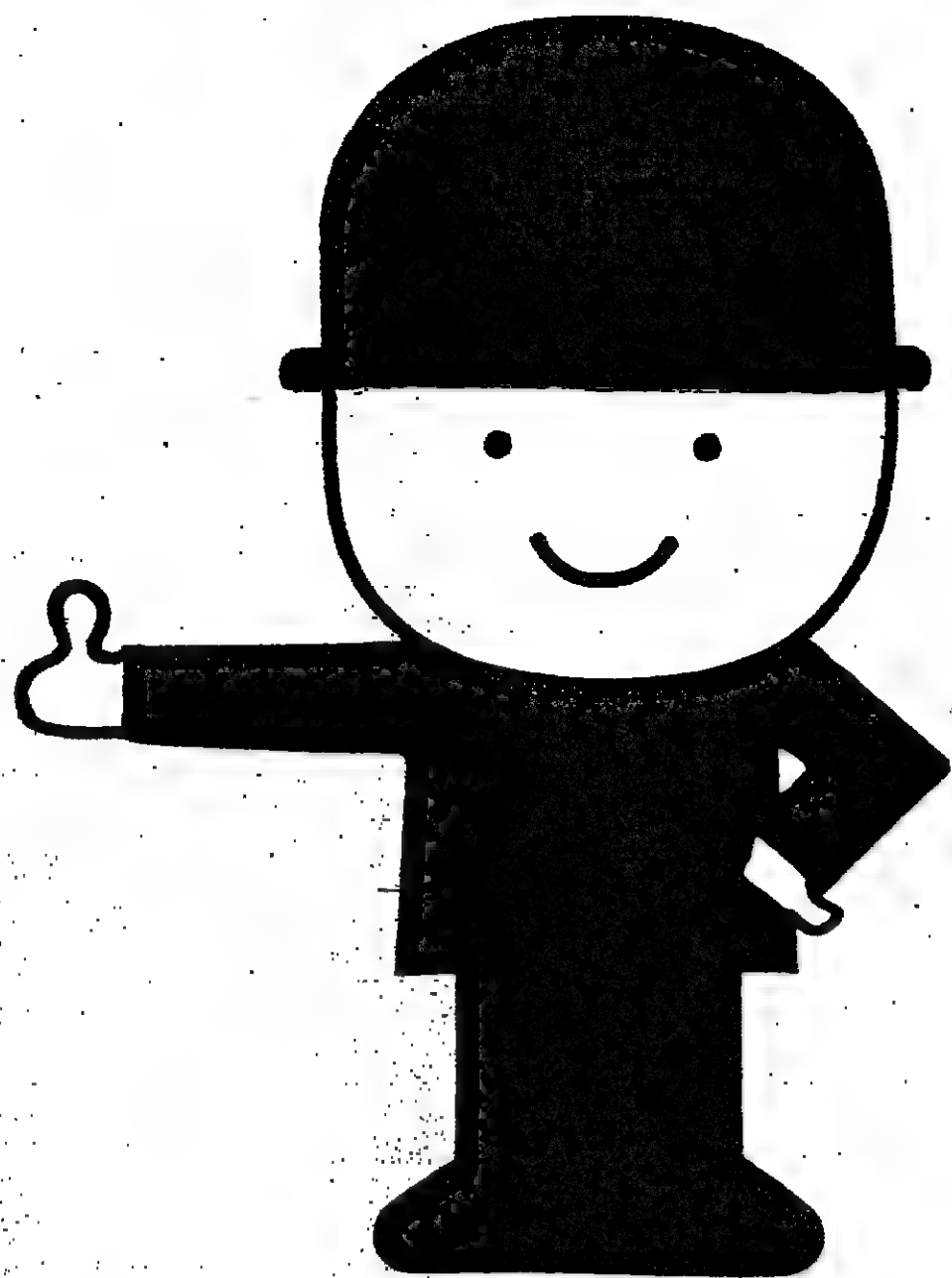
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**Dalgety's** shares would give a lower income — equivalent to 3.33p for each Spillers share.

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*The Directors of Spillers Limited have taken all reasonable care to ensure that the facts stated and the opinions expressed herein are fair and accurate and they jointly and severally accept responsibility accordingly.*



16  
L'OMBARD

# The silly myth about the IMF

BY SAMUEL BRITTON

THERE CAN BE few institutions the reality of which is so different to the myths which surround them as the IMF. The fund is frequently denounced, especially on the British Left, as a hard-hearted monetarist institution anxious to bring about deflation and unemployment, and only too pleased if this leads to the toppling of socialist governments. On the right it is seen as a noble force for financial virtue in a wicked world, and British Conservatives frequently said that the last Labour Government curtailed public spending and monetary expansion, "only" because it was forced to do by the IMF.

Anyone who has had even a few casual conversations inside the lavishly appointed fund building in Washington will know that this is a fantasy picture. The fund officials have, of course, no independent power, but are advisers to member Governments in which role they have to complete with national officials and central banks. The people who decided that the UK would have to accept a "tough, but not too tough" package in 1976 were the U.S. and German Administrations.

Of course the IMF staff has some say and some policy lines of its own. But as its 1979 Report makes clear, it is firmly on the Keynesian side in the Keynesian-monetarist debate. This will come as no surprise to anyone who has heard complaints in the IMF building about the allegedly over-restrictive policies of the Germans and the Japanese, or worries that even the British were putting too much reliance on monetary policy.

The 1979 report takes for granted that world output is demand-constrained; and on its very first page expresses artless surprise that although domestic demand management has recently proceeded on lines agreed at international meetings, these policies have had disappointing effects on both unemployment and inflation. Indeed inflation began to accelerate again in most countries even before the oil price increases, which is treated as a bolt from the blue.

This is in sharp contrast to the GATT Report published a week ago, which stated that it is the out-dated economic policies of Western Governments—and not the oil price increase—which are responsible for the fresh wave of unemployment and inflation in the West. Both

documents have figures showing that the oil price increase mainly restored the real oil price to its 1974 levels—which was indeed the intention of OPEC countries. But the GATT Report emphasises that the inflationary consequences of the oil price increases can occur only if monetary policy "fails to guard adequately against them", and in direct contrast to IMF dogma that a transfer of purchasing power to oil producers need be "deflationary" in its impact on output. Indeed it is one looking for an international body promoting sound money and market adjustments, the place to look to is the GATT and not the IMF.

The view of the IMF as stern monetarism has its main origin in that body's role as a lending institution which has to be repaid. Therefore, however much it would like to expand demand—and manufacture more reserve assets—in the world as a whole, it has to be restrictive in its advice to debtors.

On the major issue, it treats demand expansion as synonymous with "contributing to world growth"—which "countries are exhorted to do in order to their external strength. The IMF's principal suggestion for alleviating the inflation-unemployment conundrum is— you will never guess—increased productivity. The hope is that such policies will exclude oil price increases from the cost of living element in wage settlements—as if it were possible to use wage controls as a miracle drug to produce one prescribed result without other and larger adverse side effects.

Otherwise we are left with the exhortation to an unspecified "many-sided strategy of policies in a medium-term framework" and calls for international co-ordination of growth objective policies. The last "co-ordinated" world expansion was the 1972-74 boom, which produced the commodity and oil price explosion and double-digit inflation, the aftermath of which we are still suffering. The main stabilising element in the world economy is that countries have since been so often unintentionally out of phase in their domestic cycles.

No one has really uncovered the fundamental rules—if there are any—governing world prosperity, depression and inflation. But the GATT philosophy has more to contribute to our present concerns.

ONE OF the many important cases due to be heard by the House of Lords in the new law year starting on October 1 is a decision of the Court of Appeal on what is meant by the phrase "money or money's worth" in Section 13(2), Land Charges Act, 1925. Does it mean what it clearly says, or does it import the idea of a fair and reasonable value?

In *Midland Trust Co. v. Green*, Lord Denning thought that the words did bear an extended meaning of a purchase for an adequate sum. He could not believe that Parliament had intended to protect a purchaser who paid far less for a piece of land than the land was worth (particularly if the purchaser was in collusion with the vendor) as against a person who had previously acquired an option to purchase the land, but had mistakenly failed to register his option to purchase from the vendor in the appropriate Land Registry. "Money or money's worth" means a fair and reasonable value in money or money's worth, and an undervalue—particularly a gross undervalue—as here.

Lord Justice Eveleigh agreed with him, while Sir Stanley Rees, in supporting the trial judge's finding, dissented. The judicial case is two-all, with five Law Lords to go.

The facts of the case represent a family saga that has spawned a spate of litigation; actions against members of the family, against vendors and solicitors over the past six years. A Lancashire farmer had two sons who farmed the two separate farms owned originally by their father. One farm of 700 acres he farmed with one son; the other of 275 acres he sold to his son at £75 per acre, a price well below the market rate for farmland at that time. But he did not treat the other son in similar fashion. He allowed him to continue renting that farm of some 300 acres, and in addition gave him an option of purchasing the farm within the next 10 years, also at the sum of £75 per acre. The option was a simple contract drawn up by a solicitor who inexplicably failed to register the option as an estate contract under the Land Charges Act 1925. This mistake was not known to father and son at that time, and for six years nothing happened until the son began to indicate his desire to exercise the option, which he expressed to his father and mother then living in retirement.

The father protested that he wanted to retain the farm as an agricultural investment so as to save death duties. Contemporaneously the father consulted a different lawyer who indicated that if the option had not been registered the father could defeat the option by selling the land over his son's head. And that is what he did. With an alacrity that was and is uncharacteristic of conveying—it was all completed within three days of the solicitor getting instructions—the father sold the 300-acre farm to his wife for £500. Because all the main actors in this family saga had died by the time the issue came to trial the parents' conduct towards their son remains unexplained.

The farm at the time of the conveyance in 1967 was worth

at least £40,000, and it was not unreasonable to expect that it would increase in value. (During the option period of ten years the son would have had to pay only £22,750.) Now it is worth nearly £3m.

Two issues loomed large in the ensuing court battle. First, was that the conveyance was a sham, in the sense that it was not the purchase of a legal estate but merely a gift dressed up as a sale with the avowed purpose of defeating the option. Had there been no obstacle to the transfer of the ownership from father to mother by the

transaction unattractive to the objective bystander. But it was not a sham, and could not be converted into one because the motive was, to say the least, an unworthy one.

Lord Justice Eveleigh had an ingenious way round this argument. He did not think that the conveyance was sham, but he considered that the price for the purchase expressed in the conveyance was a sham. It was not for the £500 that the property was conveyed. The true transaction was a gift coupled with a token of £500 sought to be included to meet the requirements of the law relating to unregistered options.

Lord Denning avoided such niceties. He found the transaction so distasteful that he was prepared to condemn it as fraudulent. The difficulty about Lord Justice Eveleigh's point is that the conveyance and its contents did not say anything other than was the truth. It was transparent that the £500 was little more than a token payment for a farm then worth £40,000, and on any exercise of the option worth £22,750. But so long as it was not illusory or nominal, the law would not investigate the adequacy of the purchase price.

The case thus resolved itself into the narrow question of whether the conveyance was "money or money's worth." The majority of appeal judges had no hesitation in holding that Parliament must have intended that the phrase should have an extended meaning that the payment was

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a fair and reasonable value. But there is a well established rule that judges will not add words to what the parliamentary draftsman has used other than in exceptional cases. This is not judicial supposition, but an acknowledgement that there are constitutional limitations on what judges may do in applying the law as set out in clear language in a statute. After all, the words were clear in the proviso to section 13(2) Land Charges Act 1925 and reflected the clear policy of the legislature to get rid of equitable rights, such as a contract, unless registered. Moreover, the phrase "money or money's worth" was not preceded by any qualifying words, such as "in good faith," which one does find in other sections of the same Act of Parliament.

In short, the trial judge and Sir Stanley Rees were driven to the conclusion that, unless fraud was proved, or unless the conveyance was a sham, or the consideration for the purchase was illusory or nominal, an unregistered contract is void against it.

The moral of this tale is to ensure registration. And if the failure to register is the result of a solicitor's negligence,



## New York architecture

## Up on the museum roof

by FRANK LIPSUS

Having got a late start in fashioning New York to their taste, the present generation of architects and builders are doing the next best thing: tearing down what already exists, or "piggy-backing" new high-rise structures on landmarks that cannot be eliminated altogether. The latter approach, while technically preserving the building underneath, is particularly infelicitous in dwarfing a structure meant to be preserved under some gigantic glass-and-steel behemoth completely out of proportion to the existing space.

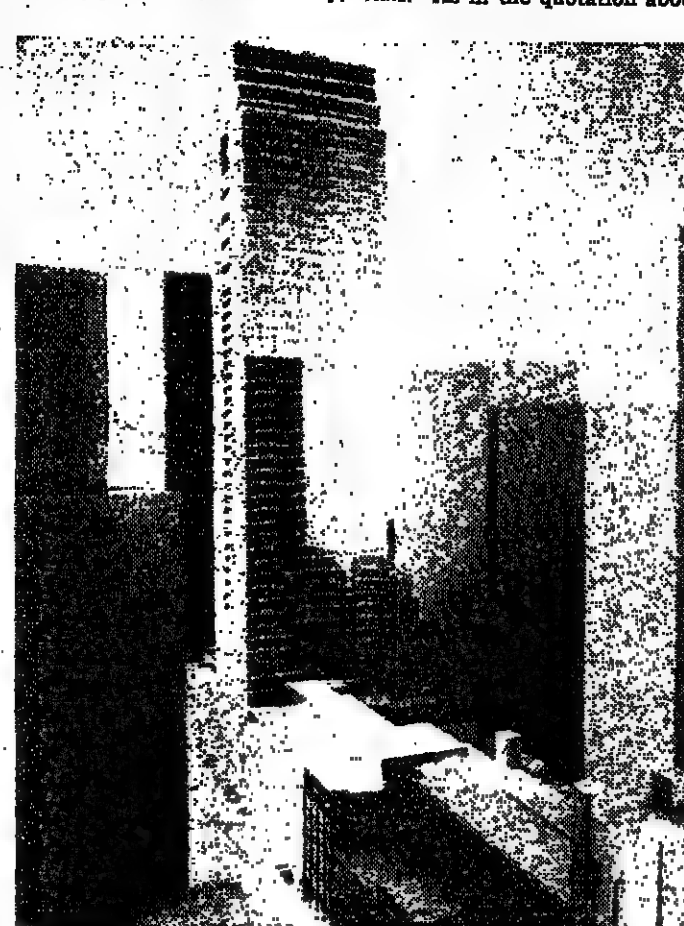
At present, the greatest amount of building in New York is going on in the middle of the city, from 53rd to 57th Street adjacent to Fifth Avenue. The area, which lies between Rockefeller Center and Central Park, has traditionally been the heart of the shopping district, with ground-level shops sitting under apartment or office buildings. The side streets of Fifth Avenue have had a surprisingly residential character, with numerous town houses, comparable in dimension if not antiquity to those in Mayfair. Even the apartment buildings rise no more than 10 or 15 storeys.

In this confined area, no more than half-a-mile square, four modern towers are under construction. Two will be corporate headquarters—for IBM and the American phone company—which will face each other along Madison Avenue between 55th and 57th Streets. The other two will be residential blocks, one adjacent to IBM, at 57th and Fifth Avenue. Built by a New York developer, the 80-storey structure requires the demolition of the Bonwit Teller store, a fashionable women's apparel shop housed in a fashionable building. The new structure will surround the Tiffany Jewellers' building, also a small square building with an elegant facade. Tiffany sold its rights over its own building to allow the new structure to grow to its grandiose proportions.

Though this new structure, with a shopping arcade and jagged-tooth design, has aroused objections for the massive presence it will create at that corner, the greatest controversy surrounds the other residential block, to be built as part of the expansion of the Museum of Modern Art, west of Fifth Avenue at 53rd Street. Unlike the telephone building, which has been controversial because of Philip Johnson's unexpected grandstand-like pediment, lately designated as "fancy-dress historical," the Museum Tower is a standard, unimaginative glass-beathed structure. But because of the museum's public status, its building has been more open to public review and dissent.

If the museum has suffered from the public attention that private developers need not face, it has also benefited from special legislation that allows the

building to be built in the first place. In addition to a complicated law that allows the museum to sell its air rights (income that otherwise would have gone to the city as real estate tax). This income will amount to about \$2m annually.



The new Museum Tower over the Museum of Modern Art, showing non-existent tower blocks on the right, from architect's model.

once standard statements meant to encourage building expire in about ten years. Furthermore, the museum was able to acquire a large parcel of land to the west of the existing structure through "metes and bounds" provisions in the new law, an innocuous term for condemning the property it did not have, which includes a small crafts museum and art book shops in brownstone town houses. It is already in the process of knocking down a beautiful 18th-century town house, previously used as a museum book shop and offices.

The new museum space will double the area of existing galleries with six floors below the apartment block. Unquestionably, the addition is needed for a museum that has room to display less than a quarter of its collection. The existing space will hardly be touched, except for some escalators being built in the garden and, of course, the shadow of the new building, which will not begin to fall on the garden until after two o'clock," according to a defence of the new structure written by the museum.

The Museum of Modern Art is obviously anxious to see the new

shadows on the garden, the museum, in its legitimate concern to have a financially-secure future, has courted the disapproval of its neighbours and been distinguished in its own defence. The model of the new structure that has been widely circulated and used as the basis of debate over the building shows two towers on 54th Street that do not exist. There are town houses where the buildings are shown to be, an inaccuracy that hides the degree to which the new building will dwarf its surroundings. The developer, a Chicago businessman, claimed the model was made by the museum architect, while the general manager of the museum, Edward L. Saxe, assumed the model came from the developer's Chicago office. The facts in the new structure will no doubt be some of the most expensive and luxurious in the city, boasting nine-foot ceilings, marble accessories and floor-to-ceiling window walls. The museum's memorandum in defence of the new building package claims that "to conserve energy, tinted glass will be used, and there will be only limited use of floor-to-ceiling windows." The museum general

manager considered the discrepancy an unfortunate choice of words because, he said, the major energy-conservation measures will be windows that open. Windows that open are not only standard, especially for residences, but they are still highly debated in energy-conservation circles.

Minor as these distortions may be, they show the precarious balance of the museum's public role. Long the beneficiary of wealthy patrons, including the Rockefeller family, the museum has outgrown its dependence on private donors. Its public programmes, especially a constant and enlightening series of film showings, attract huge audiences, who support the museum with membership and entrance fees.

Still, the museum has operated in deficit for more than ten years now, and besides the \$1m gained in the air rights sale, the museum is embarking on an ambitious public appeal for another \$40m. Larger space is expected to draw more people and revenue to the museum. In fact, the museum is counting on doubling its income, a goal comparable to the income doubling that occurred after the last expansion. There will also be a bond issue to help secure a new economic base for future operations.

Whether the controversy about the building affects people's support for the museum remains to be seen. The apartment tower is a clever means of bringing wealthy patrons into a new relationship to the museum, getting their money in return for a place to live. The claim that the new galleries will make a splendid foyer for the rich inhabitants of the building displays some of the hostility this far engendered, raising questions of which clientele the museum is most anxious to secure. The museum might have used its "metes and bounds" powers to get the space it needed without building a tower, a possibility the museum dismisses as inadequate, though the tower itself is not remunerative enough and the museum considers "the expansion plan as an exciting incentive to contributors."

The Museum of Modern Art is an important institution that has given its imprimatur to not only daring contemporary artists but also to objects like typewriters, stereos and other modern gadgets now included in its collection. More than private developers and large corporations, it deserves to make money from New York's laws and everyone's desire to be squatting in the same space in the city. The sums must work out for a substantial benefit to the museum to justify the tower, since it is otherwise an expensive new gadget to add to its collection.

## Covent Garden

## Peter Martins

by CLEMENT CRISP

Calcium Light Night is Peter Martins' first ballet. It is set to eight short pieces by Charles Ives, one of which—named after the calcium lamps used once by Yale fraternity men on nocturnal expeditions—gives the piece its title. I reported on it at the time of the New York City Ballet's Copenhagen season; seen again at the week's end, its succinct, atmospheric dances for Daniel Duell and Heather Watts lose nothing in impact. The language is terse, allusive, full of quirks that match Ives' style—Duell casually alert, quick off the physical mark; Watts precise in the angular, clear-eyed solos that find her marking out the limits of the dance area. Personality is hinted at in individual solos; brought together for the last two numbers, these admirable young dancers play unsentimental and sparkly games with each other's bodies. The effect is of a personal creative voice, despite some inevitable Balanchinianisms—and of a new and intriguing choreographic talent.

Throughout the NYCB season Peter Martins' dancing has been of Apollonian grandeur. His Danish schooling fits aptly in the company identity; the historical parallel with Christian Johannsson's shaping of Peterburg dancers in the Bournonville style in the latter half of the 19th century can also be seen today in the presence. In the NYCB organisation of the great Danish teacher Stanley Williams—a presence which may well account for the élan shown in

the "Spring" quartet of Robbins' *Four Seasons* by four bright young male soloists.

Martins is a dancer of heroic stature, but his performance manner is light, in matter of ballon and elevation, and also, more significantly, in the fact that his physical presence is never opaque. The lift and clarity of torso as well as limbs give his interpretations what I can best describe as radiant ease in dynamics. In *Chaconne* or *Diamonds*, in *Four Seasons* or *Donces*, as in *Donces* or *Gathering*, we see a classicism of the finest water: beautiful placing, impeccable finish (clear, tight fifth positions to complete tours en l'air, and in everything that harmonious modesty which is the mark of the true premier danseur classique.

Saturday night brought a chance to see *Who Cares?* Set to an assembly of Gershwin melodies, this should serve to remind us that Balanchine worked on Broadway in some of the finest musicals of a decade. *On Your Toes*; *Babes in Arms*; *The Boys from Syracuse*; *Cabin in the Sky*.

*Who Cares?* is an agreeable exercise for a chorus of what are always known as "Ladies and Gentlemen," who do rather what one might expect them to: the piece takes off into the higher realms of Balanchinian splendour with two stunning solos: *Fascinatin' Rhythm*, in which Patricia McBride shows an electrifying response to dance and music; and *My One and Only* for Merrill Ashley, which is so difficult, and so sweetly danced,



Karin von Aroldingen and Senn Lavery in 'Emeralds'

that the eye is dazzled and delighted. Flawless coloratura dancers both.

In performances on Saturday there was much to make the heart rejoice. Heather Watts flashed through the Rubies section of *Jewels* with immense aplomb, Robert Weiss nipping in hot pursuit; Kyra Nicholls was like a young divinity with Senn Lavery in the Sanguinic duet from *Four Temperaments* (a ballet which has dominated

the repertoire this season in magnificence of execution); Suzanne Farrell and Peter Martins in *Diamonds*—required study, like the whole of *Jewels*, for anyone wishing to understand how music finds its sure companionship with dance—showed the unbroken Balanchinian chain of lucid style and aristocratic physical attitudes which takes us back nearly a century to NYCB's real roots in Imperial Petersburg.

## Wigmore Hall

## Fitzwilliam Quartet

by DOMINIC GILL

The Fitzwilliam began the last of their trio of recitals to introduce the new season at the Wigmore Hall last week with two novelties: a pair of unfinished movements by Mozart, completed by Duncan Druce, for strings and one or two clarinets. Both were well worth reviving (and finished by Mr. Druce without any evident seam)—the most fascinating and richly worked of the two a late F major Allegro (K580b) dating from the time of the three Prussian quartets of 1789-90, scored unusually for clarinet, bassoon horn and string trio, full of grave sweetness, dexterous tonal contrasts, and quicksilver counterpoint.

It was a tempting introduction, which the Fitzwilliam followed with their first performance of London of Brahms' third string quartet. Almost everywhere—and considering the newness of the work to their repertoire, that is a great deal—they caught its manner, and its measure, brilliantly well. The magical incantations of the second movement were beautifully gauged (though none of the three ensembles I have so far heard play it seems to dare yet to give the magic its head, or its full weight of mystery). Christopher Rowland shaped the high-calling, violin solo of the

third movement very deftly; and the ghostly fairy-waltz of the second scherzo's trio was splendidly danced, free but firm. They kept firm, too, the difficult tread of the finale—"La Serenissima," but full of disquiet and regretful shadows. As the performance matures, and settles, it will surely gain in broadness and (the only important quality it yet lacks at some key points) in relaxation.

After the interval they were joined once more by Alan Hacker (the second clarinetist in the Mozart Allegro had been the excellent Leslie Schatzberger) for a clear, well-ordered, and at its best a warmly eloquent account of Brahms's clarinet quintet. Pressed hard, Hacker's tone would sometimes tend to tooth and fix uncomfortably at the edges (the timbre is memorable, and almost his trademark, but after in some works than others). In the central section of the second movement there were one or two moments distinctly more Peter Maxwell Davies than Zigeuner—stirring certainly, but disconcerting too, even as the agility of ensemble, and the smoothness and roundness of phrasing, were commanding. We caught an echo, as the quintet ended, of the last pages of the Britten—strange blend, intimate musical paradox, of troubled serenity.

## 'My Fair Lady'

returns to London

A new production of *My Fair Lady* will open at the Adelphi Theatre on Thursday, October 25. The show will star Tony Britton as Professor Higgins, Liz Robertson as Eliza Doolittle, Peter Bayliss as Alfred Doolittle, and Dame Anna Neagle as Mrs. Higgins.

There will be reduced priced previews from October 18. This production has just completed a six month tour of the provinces and its opening at the Adelphi will mark a special return for Dame Anna Neagle who starred there in *Charlie Girl* for 51 years.

## Gorky's 'The Children of the Sun' at the Aldwych

The Royal Shakespeare Company's British premiere production of Maxim Gorky's *The Children of the Sun* opens at the Aldwych Theatre on October 9.

This is the fifth Gorky play to be presented by the RSC in recent years, and the fourth to be a British premiere. *The Children of the Sun* was written while Gorky was in prison for his active part in the 1905 revolution.

Sinead Cusack, Carmen Du Sautoy, Alan Howard, Natasha Parry and Norman Rodway head the cast.

## Staff art exhibition

A display of art by National Gallery staff is on view to the public in the Board Room of the National Gallery until September 30.

This is the fourth public exhibition of paintings, drawings and sculpture by people who work at the Gallery.

## Young Vic Studio

## Paradise is Closing Down

by B. A. YOUNG

Cape Town is the scene, the kitchen of Molly's cottage in a street that has lately moved up from coloured to white. (I mean "coloured" in the South African sense). Molly (Naomi Buch) is Jewish, a first-generation South African of Polish extraction whose husband has left her for a teenage girl.

As they prepare to go out to dinner she is chatting with Mousie (Helen Bourne), a student from what is still called Rhodesia, and Anna (Barbara Kinnear), a fully-breded Dutch South African. A young coloured man (Frank Williams) calls stepping blithely along the primrose path of dalliance in forgetful shopping bags when he leaves. "You might equate these four characters with the

dominant strands in South African society.

Most of the action is off-stage; Molly's flat is burgled, Anna's car is stolen. What is on stage is rather brusquely devised, with entries and exits made to fit the author's convenience rather than mere likelihood, and a good deal of irrelevant material brought in to keep things moving. But it is the talk that matters, not the action.

The author, Pieter-Dirk Uys, indicates sharply how these three women, from different but convergent backgrounds, are stepping blithely along the primrose path of dalliance in forgetful shopping bags when he leaves. "You might equate these four characters with the

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Brecht's *Private Life of the Third Reich*. Black persecution in South Africa is surely not so much less important to the world of the 1970s than Jewish persecution in Germany half a century ago.

been crying again." "It's just the tear-gas." The conversation is confined to the idiom of middle-class white society, though an occasional phrase shines out like a diamond in the digressing—"The good things in life without the payment in blood" exactly describes what these three are after. As in all the best political writing, the talk is as amusing as it is trenchant, and it is delivered convincingly, under Roberts Dorrant's direction, by the players of the company of Four, all of them either native to or familiar with Southern Africa. This is the kind of play I had in mind when I was driven to my outburst of impatience by

## TENNIS BY JOHN BARRETT

## Italians wreck British hopes

BRITAIN'S DAVIS Cup dream for 1979 ended yesterday on the slow playing centre court at the Foro Italico, where Italy, leading two rubbers to one overnight, won the last two singles to complete a 4-1 victory.

In the 12 meetings between the two nations, Britain has won only three times—in 1922, 1928 and 1933, when British tennis reigned supreme. This is the eighth loss since the War, and in the previous three ties played in Italy, Britain had won only two rubbers.

The winning point for Italy was scored by the 29-year-old local idol, Adriano Panatta, who simply allowed John Lloyd to hit himself to destruction.

Panatta's winning margin of 6-3, 6-2, 6-3 was as straightforward as it would suggest. Lloyd never threatened him. The first set began with five successive rallies to Italy, and during the second set, Lloyd was endeavouring to attack on every occasion, but most of his attempted approaches to the net ended with a wild shot, either into the net or far beyond the base line.

There was a momentary glimmer of hope when Lloyd held

serve in the sixth game and then for the first, and as it transpired, only time in the match broke the Italian's service as Panatta delivered a third double fault and then was left stranded as Lloyd projected a winning back-hand lob.

This was about the only moment which the small but vociferous band of British supporters could cheer.

Having recovered from 0-5, Lloyd could not prevent Panatta from holding his service to 15 with a searing service winner.

The second set is best forgotten. It fell to Italy 6-2 in a mere 30 minutes.

At least in the third set Lloyd did begin at last to rally, and now Panatta was having to work for his points. But the 1976 Italian and French Open champion, who had led Italy to their only Davis Cup win the same year against Chile in Santiago, was much too wise a campaigner to change a winning game.

The final match, reduced by agreement between the captains to the best of three sets instead of five, resulted in an 8-6, 7-5 win for Corrado Barazzutti over Buster Mottram, who had led

5-2 in the first set.

The British team manager, Paul Hutchins, was philosophical afterwards about the thrashing suffered by the same team who last year carried Britain to the final of the Davis Cup for the first time since 1937.

He said "I would choose the same team again in the same circumstances if we were playing the match tomorrow."

"We were playing the best clay-court nation in Europe, and they had to start as favourites. For the future I may have to consider some younger players who have proved their worth—men like Andrew Jarrett, Robin Beven, Jonathan Smith and Richard Lewis. But that is not to say that the present four are necessarily finished. It is too early to say."

Doubtless the inequities will rumble on within British tennis circles about this loss—not so much about the result, but more the manner in which the team was defeated.

In Saturday's doubles Mark Cox, the 36-year-old Leicester-born left-hander, and David Lloyd, five years younger, were totally outclassed and ill-at-ease against the No. 2 Italian pair,

Barazzutti and Tonino Zugarelli, as they were beaten 7-5, 10-8, 6-1. It was a nightmare of a match for all four players, and it was no surprise when afterwards Lloyd announced his retirement from future British teams.

More serious for Hutchins is the form and attitude of John Lloyd. Although I am sure he was trying, there was an apparent air of careless abandon about his play. Lately, there has been a welcome return of form, after almost 12 months without a win, but on clay courts his game is simply too dangerous and ambitious to succeed against world class players, except on rare days when everything is working to perfection.

Mottram comes out of this match with tremendous credit. His 6-0, 6-4, 6-4 defeat of Panatta on Friday revealed a new aggression which, added to his natural defensive qualities, make him a truly formidable exponent of the clay court art. He improves all the time, and at 24 has several years yet of Davis Cup service ahead of him.

## SOCCER BY TREVOR BAILEY

## Subtlety missing at the top level

AT WEMBLEY last Wednesday England reverted from their normal fluid 4-2-2 formation, favoured by many First Division clubs including Liverpool and Nottingham Forest, to a far from convincing 4-3-3. Although their 1-0 victory over Denmark, not one of the most powerful international sides, almost guarantees them a place in the European finals, it was an undistinguished match, enlivened by the brilliance of Keegan, who sparked like a true diamond among a cluster of carefully-made imitations.

It was hard to imagine a forward line consisting of two basic wingers—the industrious Coppell on the right; and Barnes, still having difficulty in maximising upon his considerable individual skill, on the left; and the darting Keegan, who is liable to appear anywhere in the front line, seriously inconveniencing a well-disciplined rearguard. McDermott, with the type of service he receives at

Denmark, could cause problems with his fast breaks, but neither Brooking nor Wilkins is likely to be among the top goal-scoring this season.

A big weakness of Ron Greenwood's side was, with the exception of Keegan, the predictability. There is nothing wrong with a simple pass, but it does help to introduce occasionally the subtle one, which is far more likely to wrong-foot the opposition.

Exactly the same criticism can be levelled against most of our League clubs, some of whom are not seriously interested—the number is thankfully dropping—in mounting an attack until the ball is safely in the opponents' half. There is also a suspicion that many coaches lose the individual skill of a particular player in the effort to fit it into the team pattern.

On Saturday, Nottingham Forest, who in the last two years have established themselves alongside Liverpool as a great side, were—down to earth—

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Against Forest's basic 4-4-2, Norwich's manager, John Bond, used a three-man back line, an unusual midfield quartet consisting of a natural full-back, a utility player, a light-weight striker, and a genuine half-back, and a front-line with a double spearhead and a basic left winger used on the right flank.

Confronted by such an accomplished team as Forest, who are averaging two goals per match at home and away, it was a brave, tactical move, but it proved highly successful. One of the main reasons it worked was the novelty, plus the fact that Norwich have achieved the aim of every manager—playing above their basic individual ability through teamwork.

In this absurd era of film transfers, which are totally unrelated to the economics of the game, it is most heartening to find a club such as Norwich playing so well, showing great enthusiasm. Norwich are in the process of building a new film stand and in terms of financial returns, this project will prove a greater asset.

The first film player, the "entitled" Trevor Francis, spectator on Satur-

day, but seems to be much-needed on the pitch.

The team that Bond has built for so very little on current prices inevitably is a shade short of class, though not up front, where the remarkable Fashanu and the impressive Reeves were a more effective pair than Birles and Woodcock. Both combine ability on the ground and in the air with pace and bravery. Their skill, persistence and effort forced many errors from what is regarded as one of the soundest defences in the land.

Reeves is already an England prospect, and if the tall and graceful Fashanu continues to develop as quickly as he has done during the last 12 months, I fancy he could be an even more valuable asset, with his natural instinct to do the unexpected, plus his energy.

The one problem which is bound to arise is how Norwich can keep this splendid pair of strikers rather than appointing home gates. After all, both players must know they can collect five per cent of the enormous transfer fee which some wealthy club is bound to offer in the near future.



## FINANCIAL TIMES

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Monday September 17 1979

## BBC: licence and liberty

Mr. William Whitelaw, the Home Secretary, has two objectives as he puts the finishing touches to his plans for BBC financing. He is determined to move the corporation away from the poverty line and at the same time distance the Government, to some extent at least, from the political storms which are caused by frequent licence fee increases. It is hardly surprising that these objectives have the enthusiastic support of the BBC itself. The reality of life, however, may prevent the evolution of a policy that will please everyone.

The BBC is moving deeper into debt on its present £25 colour licence fee. At the same time, it wants to maintain its editorial independence, but knows that its views on this subject are not shared by all members of the present Cabinet. Yet, on the whole, it has no doubts about its own wishes. It would like a long-term — perhaps five years or more — budget planned at 1980 prices, and funded by a licence fee firmly tied to some form of index. It would like the Government to agree to the budget and then leave the stage. The licence fee would rise from time to time automatically.

The Home Office appears to have gone some way along the road towards accepting the theory, but has shied away from the practice. Mr. Whitelaw made it clear at the Royal Television Society conference in Cambridge over the weekend that his idea of long term is four years. The word "indexation" is one that clearly does not feature in his vocabulary. Instead the BBC looks likely to have the four-year budget it wants, coupled with an undertaking that Government will increase the licence fee when it feels it necessary in order to deal with inflation. The BBC might regard this as a commitment to indexation, but the Home Office certainly does not. The initial fee is likely to be about £35.

## Dilemma

The dilemma for Mr. Whitelaw has been that preventing the BBC from becoming a political football also involves the risk of removing the BBC from financial discipline. Apart from the inherent dangers of an indexed income for the corporation — others might seek a similar arrangement — the BBC unions might be tempted to use the chosen index as a benchmark for their own pay negotiations. By making an unspecified promise Mr. Whitelaw reserves to himself the right of turning to the public and saying: "It is not my fault the licence fee is

going up," while at the same time curbing his generosity if the BBC seems to be financially misbehaving. The BBC itself does not regard this as unfair. It is keen to negotiate a global amount with the Government and would resist intervention only if it was on specifics. To be told that it was getting £10m a year less would be acceptable, but to be told to cut out Radio Two would not.

Unfortunately, the essence of the problem is how to retain financial control over the BBC while not affecting editorial independence. Mr. Whitelaw is a broadcasting enthusiast. He spent much more time at the Television Society's gathering than would have been required by a duty call. He has an affection for the business which has been seen in Postmasters General and Ministers of Posts and Telecommunications in the past, but rarely in Home Secretaries.

## Delight

This delight in broadcasting is not one that is shared by all of his Cabinet colleagues. The shadow of the broadcast interview with the Irish National Liberation Army still hangs over talks about BBC independence. The Whitelaw view that the BBC is a special case may not receive an entirely sympathetic hearing.

Whatever the final details of the Whitelaw scheme, the BBC must not be so insulated from the financial realities of the next few years as to be able to ignore them. We should all like to make long-term plans in the total confidence that the money would be available to fulfil them. It is a luxury, however, in which few can indulge. At the same time, the BBC must not be allowed to drift closer and closer to being just another recipient of an annual grant-in-aid, as it has done recently. Between the start of 1968 and the end of 1978 there were six licence-fee changes, usually as the result of the BBC taking the begging bowl along to assorted Ministers.

If the Whitelaw plan changes that, then it will have achieved a great deal. The Home Secretary is a vastly more powerful figure than previous Ministers responsible for broadcasting; Mr. Merlyn Rees, for example, delegated the whole area to Lord Harris. Thus the BBC is on its firmest ground for a long time in seeking a better working environment. At the moment, it looks as if the Government is moving towards the best solution for an extremely sensitive complex of problems.

## Wage pressures in Italy

ONCE AGAIN there is talk of a "hot" Italian autumn. But a comparison with 1969 would be highly misleading. Unlike the unrest of 10 years ago, which centred on the private industrial sector, and which in retrospect marked the end of Italy's "economic miracle" of the '60s, the present disturbances are in the public sector. The planned peak came towards the end of last week with a total shutdown of the railways and of hospitals, the postal service, and of central and local Government offices throughout the country.

The ostensible grievance of the major confederated unions is the failure of the Government to index the pay of state employees according to the so-called scala mobile, enjoyed by their private sector counterparts.

## Uncomfortable trial

The strikes are an uncomfortable trial for the month-old administration of Sig. Francesco Cossiga, which is weak even by Italian standards. But its demise is unlikely until the major political parties have reached a compromise on a more stable formula (harder to find with every crisis) by which the country can be governed.

To meet the demands of the main unions would add nearly L3,500bn (£1.9bn) over the next three years to expenditure, at a time when the public sector deficit already stands at 15 per cent or more of GDP. It is fortunate that Italy's external finances remain in such remarkably good order. Moreover, in economic terms, the strike call appears to have little logical basis. The unions are claiming that the improvement in employment conditions for public sector workers will be the first step towards an overhaul of the country's chronically inefficient bureaucracy.

## Autonomous Left

But the argument has been heard any number of times before with no resulting improvement in the service offered. The truth of the matter is that Italy's union movement is profoundly unsure of its role, and is under constant threat of

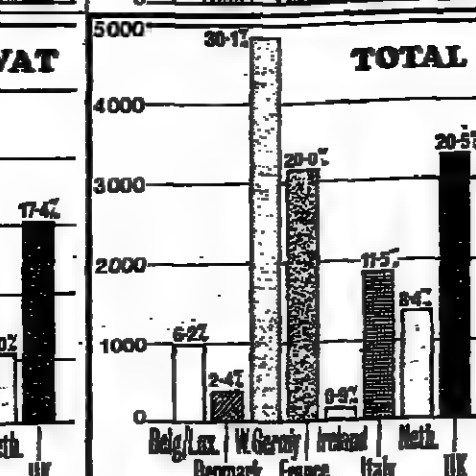
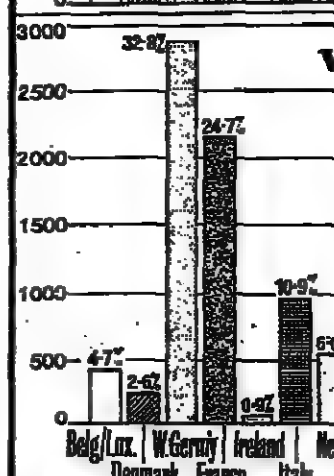
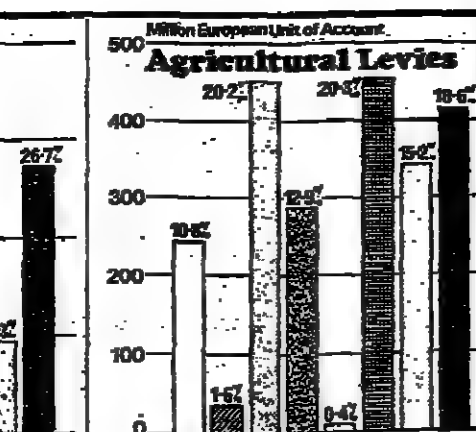
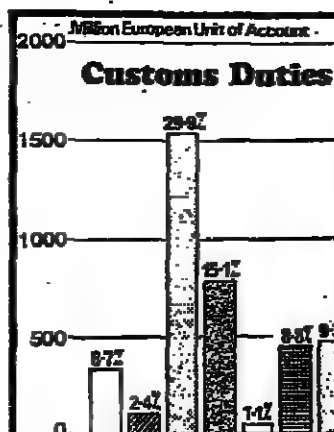
being outflanked by the so-called "autonomous" left, which corresponds to the militant fringe of British trade unionism. A succession of precarious Governments, and the association of the Communists with the ruling majority has pulled the unions much further into the political process than they are prepared for. And a more moderate stance, exactly as the Italian Communists found in political terms, has opened up a vacuum on the left into which the militants have naturally moved. The current unrest is therefore in large measure a calculated public display by the traditional unions that they still have teeth.

As for the public sector employees themselves, one might argue that the claim is in many respects preposterous. Not only do they have pension terms as attractive, if not more so, than workers in the private sector, but they are in effect unacknowledged. The consequence is that many (if not a majority) of them have second jobs, often more interesting and as remunerative as their supposed main occupation.

## Scala mobile

It is understandable that the Italian unions should want to have something to show for public service employees, after the advantages (still hard to quantify) won in the hard-fought negotiations for new three-year labour contracts for industrial workers concluded on the eve of the Summer holidays.

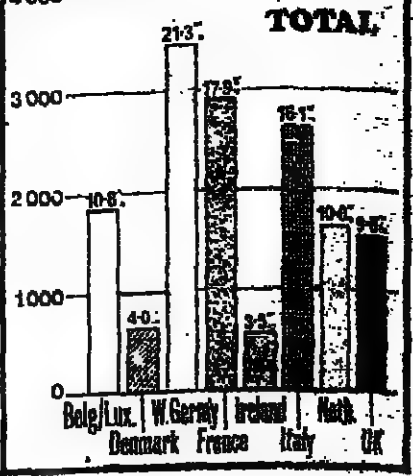
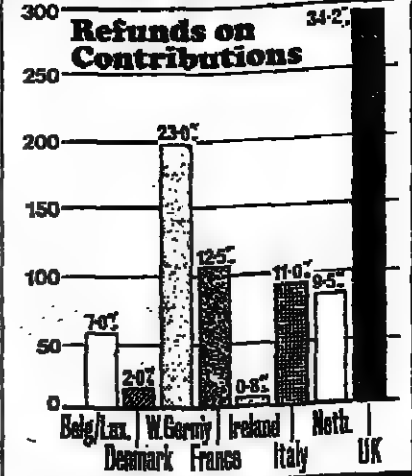
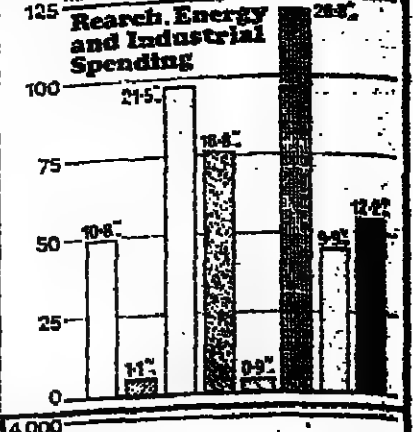
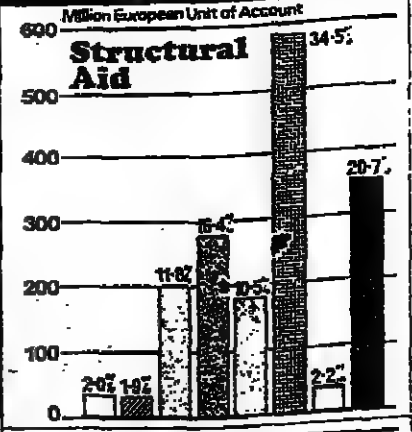
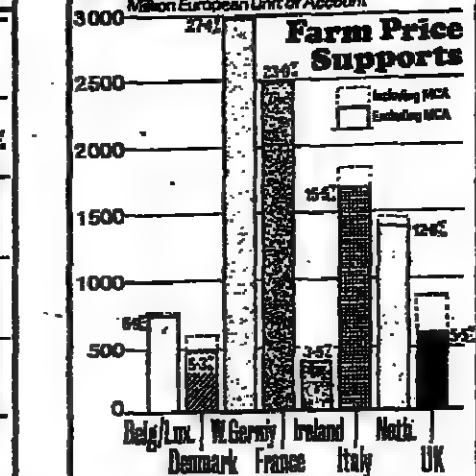
But it is certainly scarcely in Italy's interest to witness a further reinforcement of the scala mobile — which already makes control of inflation peculiarly difficult — especially at a moment when a growing weight of argument is in favour of reducing its scope by the exclusion of energy costs from the indexation calculation. Were there a real prospect of creating a full-time public administration, the price now being demanded would, of course, be small. But to eradicate the second job, pay for the first would presumably move less than to be doubled, and that is clearly not on the next



## GROSS BUDGET CONTRIBUTIONS

1980 ESTIMATES  
Source: European Commission

## RECEIPTS FROM EEC BUDGET



## Britain's share of the EEC budget

By GUY DE JONQUIERES and MARGARET VAN HATTEM in BRUSSELS

THE BRITISH Government returns to the offensive in Brussels today for what it hopes will be the start of the decisive phase in its latest battle to secure a better deal out of EEC membership. The campaign has been waged for almost a year, under both Conservative and Labour administrations, and if no clear outcome is yet in sight the Government can at least claim to have achieved some movement towards its objectives.

## Hard struggle for UK

The report is the starting point for an intensive examination of the next three months of Britain's and Italy's complaints that the financial and economic odds of membership are stacked against them. It was set in motion last July at the urging of Mrs. Thatcher, the British Prime Minister, who persuaded other EEC leaders to agree to discuss possible remedies at the next "summit" in Dublin at the end of November.

There are two main reasons why the problem of British payments to Brussels, which was supposed to have been settled in Dublin five years ago, has re-emerged so forcefully. One is that the so-called "corrective mechanism" agreed in Dublin, which was intended to provide refunds to countries paying more than their fair share, has not been effective. This is largely because it was geared to a country's gross, not net, contributions. In any case, refunds from it are limited to 250m units of account annually — a mere fraction of the more than 1.5bn u.a. which Britain expects to contribute next year.

The second, and more fundamental, reason is that the British economy has failed to adapt structurally to the rest of the Community as rapidly as had been hoped at the time of entry. Nor has the Community created on any large scale new common policies from which Britain could expect to benefit.

The differences between the UK's economic and trade patterns and those of its continental partners affect it most adversely on the contributions side. The Community budget is financed semi-automatically by a so-called "own resources" system, under which member countries pass on to Brussels the customs duties and agricultural levies collected at their frontiers on imports from outside the EEC. This money is topped up by a portion of national value added taxes, currently about 0.3 per cent of the total assessed in the Nine. Though Britain pays about 41 per cent of its imports from the rest of the EEC, up from 34 per cent just before entry, the proportion in most other member countries is significantly higher. So the UK has to pay over more in customs duties. It is the only country whose payments have risen steadily since 1974. They are expected to amount this year to a quarter of the EEC total, compared with less than

## NET CONTRIBUTIONS AND RECEIPTS — EEC BUDGETS 1979 AND 1980 (in millions ECU)

	1979 (A)	1979 (B)	1980 (A)	1980 (B)
Belgium	+338	+348	+338	+350
Denmark	+224	+455	+224	+370
Germany	+1,155	+1,018	+1,107	+1,048
France	+322	+90	+322	+19
Ireland	+365	+578	+436	+513
Italy	+754	+481	+871	+734
Luxembourg	+251	+251	+292	+292
Netherlands	+72	+229	+399	+422
UK	-527	-1,254	-1,552	-1,814

Notes: — indicates contributions; + indicates receipts. MCAs are attributed to importing countries in column (A) and to exporting countries in column (B).

## The problem of VAT

The UK stands to do little better under the VAT system, either, which in effect penalises it for its relative economic decline. One symptom of this is that a high proportion of Britain's GNP is accounted for by consumption, which is subject to VAT. If no corrective action is taken, the UK's share of the budget cost will be boosted further next year, with the ending of the arrangements in its accession treaty which limited the annual rise in its gross budget contributions. The Commission forecasts that these will rise to 20.5 per cent from 17.6 per cent this year, even though Britain's GNP will only be 18 per cent of the EEC total. On a per capita basis, its GNP is the third lowest of the Nine. But France, with more than 25 per cent of the EEC's combined GNP, will pay less than 20 per cent of the budget bill.

On the other side of the balance sheet the UK fares badly because it gains little benefit from the Common Agricultural Policy, which costs more than two thirds of EEC spending. In past years, there have been disagreements about exactly how much Britain gains from the CAP because of the sizeable sums paid out in monetary compensatory amounts (MCAs) used to bridge the gap between market exchange rates and the artificial "green" rates used in farm trade. When the pound was weak and the UK had substantial MCAs, other countries argued that these were

largely a subsidy to British consumers, cutting the cost of imported food. This has been effectively neutralised by the virtual elimination of Britain's MCAs in recent months. If sterling remains stable, it is estimated that the UK will receive less than 8 per cent of intervention spending next year, by the most generous calculation.

## Controversial choices

The UK would rather put the onus for proposing a solution to its budget problem on the Commission, not least because the possible alternatives all involve politically controversial and in practice difficult choices. One way would be to curb spending on the CAP, to free resources for other policies which would benefit the UK. But the meagre results of past efforts to reform the farm sector offer scant hope that agreement can be reached quickly on the necessary measures.

Especially strong resistance to any new initiative of this kind can be expected from France, where President Giscard d'Estaing is likely to face strong Gaullist pressure to safeguard French interest in Europe during the run-up to the 1981 presidential election campaign. National elections are also due in Germany next year. Chancellor Schmidt will doubtless not want to rock his party's coalition with the Free Democratic Party by upsetting Herr Josef Ertl, the FDP Agriculture Minister and diehard champion of EEC farm spending. A second option would be to expand substantially the EEC budget, keeping the CAP intact and providing extra funds for non-farm policies. But Mrs. Thatcher, as a doctrinaire opponent of high public spending in any form, is against such a step, as are most other governments, all of which are pursuing restrictive fiscal policies at home and do not see why they should hand over more money to Brussels.

A third approach, and the one Britain appears to favour most, would be to adapt the system of budget contributions by devising a more effective financial mechanism. The Commission has already suggested that the EEC should link countries' contributions to their economic growth, so that payments by a wealthy country should rise in line with its prosperity, while poor countries' contributions should not grow faster than their capacity to pay.

But the UK wants more than just a safeguard against future increases in its payments. It wants them cut. That would mean not only that the "own resources" system, painfully negotiated only three years ago, would have to be fundamentally revised, but that other countries would be required to step up their own contributions immediately to make up the shortfall. Few are likely to welcome such an obligation.

Until now, Mrs. Thatcher, to secure a budget solution, has banked heavily on her Government's claims to be a "European" (than its predecessor). But if no real progress is made over the next three months, she may have to take a tougher line. Before she came to power, some of her advisers suggested that if its partners refused to yield, the UK might threaten not to pay its budget contributions. That remains the ultimate sanction.

But Britain has one other ace up its sleeve. The current arrangements are expected to reach their expiry date in 1981. The obvious way to increase them would be to raise the statutory limit on countries' VAT contributions above its current level of 1 per cent of the total. But Germany has already served warning that it is unwilling to do this and will insist instead on a reform of spending within existing revenues. That would lead to a major row in Brussels. Either way, the stage seems set for some tough negotiations in Brussels during the months ahead.

## MEN AND MATTERS

## Answering the call of the wild

If half London seemed, one way and another, pre-occupied with demonstrations yesterday, at least Hector Monro can put such things behind him for a few days. The Minister for the Environment (the Tory Denis Howell, in case you hadn't caught up) is off to Switzerland to sign a Council of Europe convention aimed at reconciling agriculture and environment.

Dullish as this might sound, Monro is certain to enjoy an interlude out of reach of the many trying to bend his ear about the proposed South African rugby tour. As a former Scottish international and one-time president of the Scottish Rugby Union — said by some to be the last repository of classical Neanderthal conservatism — his strong anti-tour line has horrified the rugby world.

Sorting out the wildlife problem should be child's play by comparison. Although some Europeans, particularly the Italians, French, Maltese, Greeks and Cypriots, refuse to get devoured about animals, Monro thinks they will all sign the convention. "Our intention," he

## Travels in exile

Well-nigh submerged by the flurry of revolutions and general upheavals that have taken place since, Chile remains a powerful rallying cry in Britain, especially on a sunny day. Yesterday saw the sixth demonstration marking the anniversary of the coup which toppled Salvador Allende, and once more his widow Hortensia — an attractive lady of 64 rather improbably cast as a revolutionary heroine — turned up to speak to the Chile solidarity campaigners, about 4,000 of whom marched to Trafalgar Square to listen to her. In the six years since the overthrow and death of her husband, she has travelled the world — the day before she had been in Holland, a few days before that, Havana, flying from one conference or demonstration to another.

Her driving force seems to have less to do with dialectical materialism than patriotism and a deep-seated rage at what has been done to her husband, her friends and her family. "It is like a volcano there," she insisted to me. "One day soon it will erupt. In ten years I shall be back in Santiago."

Would she has not been allowed to travel since the day she arrived in Mexico City with only the clothes on her back. The junta, however, has now removed the police colonel living in her house in Santiago, and allowed her to let it and her holiday house on the coast. She lives off the rent. "But everything was looted," she says sadly. "Salvador was an art lover. We had many paintings and antiques."

## Another platform

The Chile campaigners gathered round Nelson column. Michael Foot began to speak. I left to take a demonstration, taking place at a more unlikely venue — a new underground pedestrian precinct in the shadow of Waterloo Station. There, incongruously, stood the figure of Dr. Shapour Bakhtiar, the last Prime Minister of Iran under the Shah, addressing 7,000 of his fans living in London. It seemed an odd place to make what one of the rally organisers described as "his first public speech abroad as Prime Minister."

It was, nonetheless, an emotional occasion for the man who disappeared from his office on the day the Tehran uprising reached its climax eight months ago. Wiping the tears from his eyes, he told his chivalric fellow exiles he would "fight for the freedom and glory of Iran in his last breath." A statement handed out to the crowd condemned President Carter's supply of arms to the Khomeini regime as "a tragic mockery of human rights."

Around this scene London's police had mounted one of the biggest security operations seen in recent years. The serried ranks of the men in blue, some in helicopters overhead, must have comforted the Dior-dressed, Gucci-shoed followers of Dr. Bakhtiar, most of whom seemed to be women.

Not many miles away a more modest demonstration by pro-Khomeinists was taking place. A third faction chose to stay un-

## On from kites

London businessman Fred Marsh goes off to China this week with hopes of discovering hot air balloons and hang gliding enthusiasts. "They ought to be good at hang gliding," says Marsh, 54-year-old vice-chairman of the Royal Aero Club. "I'm told they use to send a man up on a kite when a ship was launched, to give it good luck."

The All-China Sports Federation has invited Marsh to attend its gathering at the end of this month, and to make a tour to meet aviation sportsmen. "I have absolutely no idea of what to expect," he admits. The Royal Aero Club embraces every kind of flying sport, including model engineering, and Marsh showed me a report from Peking that some Chinese aeromodellers claim to have broken a world distance record.

His own enthusiasm is for "formula racing" in light planes at low level. Will he be encouraging the Chinese to try such dangerous pastimes? "Well, we haven't written any body off yet," he said.

The International Aeronautic Federation has been hoping since the death of Mao to make contacts with aerial sportsmen in China. "Some other countries are quite envious that Britain has been given the first invitation to find out," says the bemused Marsh with satisfaction. "The Americans are spitting blood."

## Wishful thinking

Billed as "The 11th Multi-Choice Symposium," a trilingual conference in Amsterdam next month stretches the optimism of even the most ardent Thatcherite. One subject on the agenda is "The UK as a tax haven."

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# FINANCIAL TIMES

## Eurobond Quotations and Yields

AIBD

THE ASSOCIATION OF  
INTERNATIONAL BOND DEALERS

At 31st AUGUST, 1979

The Association of International Bond Dealers (AIBD) compiles current market quotations and yields for Eurobond issues. These quotations and yields are published monthly by the Financial Times. The Association's prices and yields are compiled from quotations obtained from market-makers on the last working day of each month. There is no single stock exchange for Eurobonds in the usually recognised sense—secondary market trading business is done on the telephone between dealers scattered across the world's major financial centres. Membership of the AIBD (which was established in 1969) comprises over 450 institutions from about 27 countries.

### Apathy in markets

BY NICHOLAS COLCHESTER

It was during August that the new chairman of the Fed in Washington, Mr. Paul Volcker, made his presence felt. He succeeded Mr. William Miller on August 6 and, on Tuesday August 14, the much anticipated tightening of U.S. monetary policy was indicated. Between the beginning and the end of the month the federal funds rate rose from 10½ per cent to 11.25 per cent. The prime rate went from 11½ per cent to 12½ per

cent and the six month Euro-dollar rate went from a little over 11 per cent to 12½ per cent. Although there was universal agreement that this was a move in the right direction in the U.S. Government's long struggle with inflation, it did little for the dollar sector of the international bond markets. It was noticeable that the response of the domestic investors on Wall Street was more positive than the response of those investors

with an international perspective and with the dollar exchange rate risk to worry about. While the U.S. bond markets exhibited mild strength in the wake of Mr. Volcker's arrival, the Eurobond market turned a blind eye to this rally. It was almost universally agreed that the rise in interest rates needed to have bite as well as bark. The inflation figures out of the U.S. remained alarming and

were often cited as meaning that real interest rates in the U.S. were still negative, even though they might be approaching records in nominal terms. The figures for money supply and bank credit reinforced the impression that they were still not proving a deterrent. The impact of the rise in U.S. rates was also lessened by the relative rise in the interest rates of strong currencies like the Swiss franc and the D-Mark. The three month rate for the latter went from 8½ per cent to 7½ per cent.

The result was that a marked rift developed between the Yankee bond market which was supported by U.S. investors and the Eurodollar bond market which was not. Towards the end of the month the yield differential between bonds of similar quality and maturity had reached about 1½ per cent. The prices in the market weakened only slightly over the month, although by the end of the month the yield of under 10 per cent in the Eurobond market were hard to find. The main signs of distress came from dealers rather than investors. The mounting level of short term dollar rates made inventories of dollar bonds more and more expensive to finance.

Apathy on the part of investors towards straight dollar bonds was complete and the new

issue market for straight Euro-dollar bonds, except for one issue, remained shut the entire month. The only action was in the market for floating rate notes which were snapped up because of investor preference for short term investments or investments with returns linked to short term rates.

So an apt symbol of the month was the \$300m "tap" FRN floated by Credit Suisse First Boston for Citicorp. This combined a very short average maturity of 3½ years with a spread above interbank rates of zero. The spread could even be considered negative because the interest payments were set at the mean of the bid and offered three month interbank rate. Nevertheless the issuing house had no need of the time limit of six months which had been set for the note. CSFB was able to take the entire second tranche of \$200m off Citibank before the month was out.

If this pace in the primary sector of the dollar FRN market is maintained the volume of such issues will easily set a new record in 1979. Already in August the volume had matched the figure for all of 1978 and FRNs had accounted for one third of all dollar issues in the Eurobond market.

international bond market meanwhile started the month a level of popularity not seen since before the Carter package in defence of the dollar in November 1978. The strength in prices was not sustained throughout August, partly because the threat of mounting inflation continued to exerting the Bundesbank. But the tone remained firm and the issuing banks were able to price quite aggressively and to agree on a large monthly calendar of bond issues for the four weeks from August 21.

The yield of 7.21 per cent which Deutsche Bank established early in August on an eight year private placement for the World Bank was the lowest for four months. Yet at the end of August Bayerische Landesbank was able to float eight year D-Mark paper for Austria with a yield of 7.08 per cent. The Capital Markets sub-committee fixed a monthly volume of DM 750m, the largest since January, and comparing with the DM 300m volume which had been set (but substantially exceeded) for the previous period. Among the other hard currency alternative to the dollar the Dutch Guilder was noteworthy. Yields on medium term notes declined by 0.4 per cent over the month to around 8.8 per cent. This rate of

return has become more attractive to investors now that the rate of inflation in the Netherlands has fallen below that in West Germany, where yields are still 1½ per cent lower. Nor has the Guilder been under particular strain in the European Currency Unit.

In the course of the month the Dutch authorities relaxed the restrictions on Dutch entities tapping the Euro-guilder bond market. They may now float Euroguilder issues provided that the maturity is a minimum of seven years. The foreign bond market in Swiss francs had a month of moderate activity in August. There was a small rise in prices over the month, reducing the yield over 10 years for good quality issuers very marginally to about 4½ per cent. From the investors point of view this yield was made slightly less appealing by the uptrend in Swiss inflation, whose rate had climbed to about 4 per cent per annum. Nevertheless, the weakness of the dollar market, and the question mark over the dollar exchange rate, continued to steer some investors towards their traditional currency refuge. The Swiss franc new issue market continued to see steady interest in the low Swiss coupon rates, but no rush developed.

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The table of quotations and yields gives the latest rates available on 31st July, 1979. This information is from reports from official and other sources which the Association of International Bond Dealers considers to be reliable, but adequate means of checking its accuracy are not available and the Association does not guarantee that the information it contains is accurate or complete.

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### Austrian Quotes

#### Quotations and Yields of Austrian Eurobonds

ISSUE	Coupon Dates	Repayment	Sinking Fund (Starting)	Price	Current Yield	Current Yield to Maturity
<b>D-MARK BONDS</b>						
6½% Brenner Autobahn 1988 (G)	1.2-1.8	1.8.74-83	1.8.73	100½	101½	8.58%
6½% Donaukraftwerke 1989 (G)	1.2-1.8	1.2.85-84	1.2.77	98½	99½	8.02%
6½% Donaukraftwerke 1973 (G)	1.3	1.3.73-87	1.2.77	98½	99½	8.02%
7½% Girozentrale Wien 1978	1.1-1.1	1.1.78-87	1.1.77	101½	102½	8.51%
8½% IAKW 1975 (G)	1.5	1.5.80-83	1.2.78	103½	103½	8.45%
8½% Kelog 1973 (S)	1.5	1.5.79-88	1.2.78	98½	98½	8.58%
8½% Oester. Draufkraftwerke 1975 (G)	1.3	1.3.81-85	1.2.78	106	106½	8.24%
7½% Oester. Elektrizitätswirt 1987 (G)	1.2-1.8	1.2.73-87	1.2.77	100½	100½	8.97%
7½% Rep. Oesterreich 1985	1.4-1.10	1.4.78-82	1.4.72	101½	102½	8.88%
7½% Rep. Oesterreich 1983	1.4-1.10	1.4.78-83	1.1.74	100	100½	8.48%
8½% Rep. Oesterreich 1978	1.2	1.2.83	1.2.77	104½	105½	8.58%
8½% Rep. Oesterreich 1975	1.5	1.5.78-87	1.2.77	104½	105½	8.10%
7½% Rep. Oesterreich 1978	2.5	2.5.83-86	1.2.82	105½	106½	7.34%
8½% Rep. Oesterreich 1977	1.4	1.4.83-85	2.1.82	100	100½	8.72%
8½% Tauerkraftwerke 1988 (G)	1.3-1.9	1.3.74-83	1.9.73	99½	100½	8.48%
8½% Tauerkraftwerke 1983 (G)	1.2-1.8	1.2.74-83	1.2.77	100	100½	7.02%
8½% Voest 1975	1.10	1.10.79-85	1.8.73	103	103½	8.23%
8½% Voest 1972	1.8	1.8.81-85	1.8.73	103½	104½	8.17%
8½% Voest 1977	1.8	1.8.84-88	1.8.73	98½	98½	8.58%
7½% Wien 1968	1.6-1.12	1.6.74-83	1.6.73	100½	101½	8.93%
8½% Wien 1975	1.5	1.5.79-84	1.5.78	103	103½	7.99%
<b>U.S. BONDS</b>						
6½% Rep. Austria 1984	31.1-31.7	31.1.71-94	3.1.70	97½	98	8.14%
6½% Rep. Austria 1967	15.3-15.9	15.3.72-82	15.3.71	97½	98	8.91%
8½% Rep. Austria 1976	15.8	15.8.78-80	15.8.77	96	96½	8.08%
8½% Aust. Electricity 1986 (G)	1.1-1.7	1.7.70-86	1.7.69	98½	99	8.72%
8½% Aust. Electricity 1987 (G)	1.4-1.10	1.10.70-82	1.10.70	98½	99	8.84%
8½% Alpine Montan 1985 (G)	1.5	1.5.82-85	1.5.81	93½	93½	8.15%
8½% Tauerkraftwerke 1977 (G)	1.3	1.3.83-87	1.3.82	94½	95	8.98%
8½% Transalpine Fin. Hldg. 1986	31.7	31.7.70-85	31.7.69	94	95	7.14%
8½% Transalpine Fin. Hldg. 1985	31.7	31.7.70-85	31.7.69	94	95	7.14%
8½% Transalpine Fin. Hldg. 1987	31.1	31.1.73-82	31.1.72	97½	98½	8.91%
8½% Transalpine Fin. Hldg. 1986	30.4	30.4.74-83	30.4.73	96	97	8.89%
7½% Trans-Austria Gasline 1973	15.1	15.1.77-88	15.1.76	86	87	8.87%
<b>DOMESTIC ISSUES</b>						
8½% Investitionsanleihe 1973/II/B	3.7	3.7.76-81 (102)	—	101½	102½	7.88%
8½% Investitionsanleihe 1974/II/B	25.10	25.10.74-82	—	100	100½	8.47%
8½% Investitionsanleihe 1975/III/B	25.10	25.10.76-84 (103)	—	101½	102½	8.33%
8½% Investitionsanleihe 1975/S/III U.IV	27.11	27.11.79-85	—	102½	103½	8.24%
8½% Investitionsanleihe 1976/S	20.2	20.2.81-86 (104)	—	102½	103½	8.27%
8½% Investitionsanleihe 1976/S/II	2.7	2.7.83-88	—	98½	99½	8.08%
8½% Investitionsanleihe 1977/S/III/B	2.6	2.6.82-87	—	98½	99½	8.08%
8½% Investitionsanleihe 1977/II/B	15.9	15.9.82-86	—	98½	99½	8.08%
8½% Investitionsanleihe 1978/II/C	7.6	7.6.86	—	98½	99½	8.08%
8½% Investitionsanleihe 1978/S/C	3.10	3.10.86	—	97½	97½	7.97%
8½% Investitionsanleihe 1979/S/II	18.10	18.10.87	—	95	96	7.59%
8½% Wiener Stadtleihe 1975/C	1.3	1.3.86	—	99	99½	8.05%
8½% Wiener Stadtleihe 1975/B	29.4	29.4.76-83	—	100½	101½	8.45%
8½% Wiener Stadtleihe 1975/A	3.5	3.5.86	—	98½	99½	8.08%
8½% Europäische Investitionsbank 1976	20.10	20.10.80-86 (100.5)	—	98½	99½	8.08%
8½% Europäische Investitionsbank 1978	22.12	22.12.86 (100.5)	—	96½	97½	7.98%
8½% Inter-Am. Entwicklungsbank 1976	17.12	17.12.81-86	—	98½	99½	8.10%
8½% Tag Fincio Anleihe 1976	18.11	18.11.81-86 (100)	—	96½	97½	8.11%
8½% Sparkassenanleihe 1977/S/B	28.7	28.7.80-83	—	99½	100	8.02%
7½% Sparkassenanleihe 1978/S/C	4.7	4.7.86	—	95	95½	7.59%

(R) Purchase for redemption purposes by issuer possible. The bonds so purchased may be used for repayment according to plan. (...) Repayment at a premium. (G) Government Guarantee. (S) Local Government Guarantee. Yield calculations are based on the middle price.

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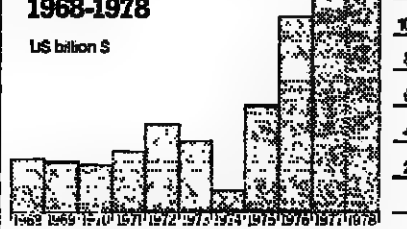


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امكزانت الادل



	Issue	Mid-Price	Current Yield	1/101	Yield to Maturity	Repayment if mandatory drawing by lot at par Sinking fund P-purchase fund
64½	Manit. Hydro E. 72/87	100.00	6.75	7.75	6.34	1, 6.72-87S
64½	Megafl Fin. Comp. 78/90	90.25	6.76	10.34	6.30	2, 1.85-90S
64½	Megafl Fin. Comp. 78/88	92.36	6.76	10.58	7.12	1, 4.87-89S
7½	M E P C 78/88	96.76	7.24	4.41	7.28	1, 5.78-89D
7½	Mexico 72/86	101.00	6.83	2.27	6.61	2, 1.17-89S
7½	Mexico 72/85	98.25	6.83	2.12	6.19	2, 1.72-88S
7½	Mexico 78/85	105.25	6.55	2.83	6.88	1, 7.82
8½	Mexico 78/83	102.75	7.79	3.76	7.12	1, 6.83
7½	Mexico 77/84	101.45	7.64	4.76	7.38	1, 6.83
6½	Mexico 76/84	95.00	8.58	6.87	7.31	1, 4.85
6½	Mexico 76/83	100.25	8.48	4.58	6.42	30, 4.84
6½	Mexico 76/82	95.50	6.02	4.00	7.08	1, 6.83
6½	Mitsubishi Bank 78/85	100.50	7.71	2.04	7.88	1, 6.83
6½	Mitsui Toatsu 76/81FP	100.50	7.71	2.04	7.88	1, 6.83
6½	MOC 75/85	100.50	7.71	2.04	7.88	1, 6.83
6½	Montreal 78/83	89.00	7.03	4.80	7.09	1, 4.70-89D
6½	Montreal 78/82	83.25	6.40	6.51	7.34	1, 9.72-89D
6½	Montreal 78/81	96.60	6.89	13.75	7.14	1, 9.72-89D
6½	Montreal 76/86	103.00	6.25	5.68	7.31	1, 7.77-86S
6½	Montreal 76/85	88.50	7.01	3.87	7.01	16, 7.87S
7½	Morg. Denmark 69/04 (G)	100.75	7.44	1.30	7.35	1, 1.17-76S
7½	Morg. Denmark 72/88 (G)	98.50	7.11	8.63	7.22	1, 4.72-84S
6½	Morg. B.L. 69/04 (G)	100.75	7.44	1.30	7.35	1, 1.17-76S
8½	Nat. Mexico 78/85FP (G)	103.50	8.45	4.25	7.79	1, 12.83
7½	Nat. Mexico 77/82FP (G)	97.50	7.18	3.00	7.37	1, 9.82
8½	Nat. Mexico 77/84 (G)	105.00	8.25	4.76	7.98	1, 9.82
8½	Nat. Mexico 77/86 (G)	104.00	8.41	4.50	7.84	1, 9.82
8½	Nat. Bk. Hungary 75/81	101.50	6.13	1.83	7.32	1, 7.81
8½	Nat. Bk. Hungary 77/85	93.25	6.87	8.77	7.93	1, 9.82
6½	Nat. Bk. Western 72/87	102.00	6.55	10.58	6.19	1, 9.82
6½	Nat. Bk. Western 72/87	95.25	6.80	1.17	6.87	1, 1.17-78-87S
6½	Newfoundland 69/84	101.50	7.14	2.85	6.77	1, 8.75-84S
8½	Newfoundland 71/86	102.50	7.80	3.78	7.21	1, 8.77-86S
6½	Newfoundland 72/87	98.50	6.63	8.17	6.53	1, 1.17-87S
6½	Newfoundland 76/86	98.50	6.63	8.17	6.53	1, 1.17-86S
6½	New Zealand 69/84	100.00	6.75	2.38	6.88	1, 2.75-84D
7½	New Zealand 71/86	184.70	7.20	3.58	6.32	1, 5.75-86S
7½	New Zealand 70/87	100.00	7.20	3.58	6.32	1, 5.75-87S
6½	New Zealand 75/80FP	100.00	9.89	0.42	9.14	1, 2.80
9½	New Zealand 75/82FP	100.00	9.25	0.42	9.00	1, 2.80
9½	New Zealand 76/80FP	100.00	9.25	0.42	9.00	1, 2.80
9½	New Zealand 76/82	102.50	9.51	2.33	8.48	1, 1.82
7½	New Zealand 76/83	101.25	7.41	3.60	7.08	1, 3.83
7½	New Zealand 76/84	104.00	7.18	1.10	7.18	1, 3.83
7½	New Zealand 76/85	96.75	6.33	4.87	6.58	1, 5.84
7½	New Zealand 78/86	92.30	5.89	6.50	6.74	1, 3.88
6½	New Zealand 70/87	95.00	6.20	6.50	6.74	1, 3.88
6½	Nippon Housing Loan 78/84FP	92.00	8.44	3.22	8.77	1, 1.57
6½	Nippon Kokaen 79/84	98.75	8.03	4.71	7.02	15, 5.84
6½	Nippon 78/85	98.00	6.83	4.58	6.73	1, 9.85
6½	Nippon 78/86	96.10	6.83	4.58	6.73	1, 9.85

4 years maturity: 7.60% 5 years maturity: 7.70%

**Nutshell Survey**  
... mixed turnover and uncertainty prevailed ... unchanged  
yield levels ... 6 new straight issues totalling 999 mio DM and 1  
convertible of 50 mio DM were mostly well received ...

7.5%	Norway 78/81	101.50	7.39	1.83	6.59	1, 7.81
8.5%	Norway 77/82	100.00	6.47	2.33	8.24	1, 1.82
8.5%	Norway 77/82	190.00	6.25	2.88	8.24	1, 4.82
8.5%	Norway 77/82	190.00	7.05	2.88	8.24	1, 4.82
4.5%	Norway 78/83	95.86	6.97	3.33	8.22	1, 1.83
4.5%	Norway 78/83	95.86	4.08	3.58	8.22	1, 4.83
8.5%	Norway 78/83	100.00	8.75	2.73	8.84	1, 5.84
8.5%	Norw. Mortgage 78/81	100.50	7.23	5.84	7.18	16, 5.83-87D
8.5%	Norw. Mortgage 77/88	82.25	6.43	6.62	7.33	10, 5.12-82D-86D
7.5%	Novia Scotia 71/88	10.75	7.62	3.67	7.31	1, 1.25-82B-85B
7.5%	Novor 78/87	94.10	7.05	3.67	7.31	1, 1.25-82B-85B
8.5%	Occident. Int. Fin. 78/90	94.10	7.17	11.28	7.54	1, 12.05-80B
8.5%	Occident. Overse. 88/83	98.40	8.91	4.08	7.08	1, 10.73-83B
8.5%	Oester. Bundes-Bd. 68/80	100.00	8.75	2.73	8.84	1, 3.87-85D
8.5%	Oester. Donaustr. 58/84 (G)	98.75	6.02	2.36	8.21	1, 2.86-84D
8.5%	Oester. Donaustr. 73/88 (G)	98.50	7.78	9.50	8.62	1, 3.78-88B
8.5%	Oester. Druckr. 76/85 (G)	100.00	8.25	3.44	8.67	1, 3.87-85D
7.5%	Oest. B. 78/87 (G)	100.00	8.58	7.74	8.59	1, 2.73-87D
7.5%	Oest. B. Wirtsch. 76/83PP (G)	102.21	5.81	4.28	8.84	16, 12.83
8.5%	Oest. Ind. Verwaltung 78/85PP (G)	93.00	8.91	8.82	7.00	1, 7.85
7.5%	Oest. Ind. Verwaltung 78/85PP (G)	93.00	8.91	8.82	7.00	1, 7.85
-7.5%	Oest. Kontrollbank 76/83PP (G)	100.00	7.00	4.28	8.89	due 1, 12.83
8.5%	Oest. Kontrollbank 77/83PP (G)	98.50	6.78	4.43	8.67	1, 2.84
8.5%	Oest. Kontrollbank 77/83PP (G)	98.50	6.78	4.43	8.67	1, 2.84
8.5%	Oest. Kontrollbank 77/84PP (G)	98.00	6.51	4.92	7.24	1, 5.84
8.5%	Oest. Kontrollbank 77/85PP (G)	98.50	8.28	6.17	8.92	1, 11.85
8.5%	Oest. Kontrollbank 78/84PP (G)	98.00	5.98	4.92	7.73	1, 8.84
8.5%	Oest. Kontrollbank 78/88 (G)	97.00	6.70	9.28	8.94	16, 12.86
8.5%	Oest. Kontrollbank 78/89PP (G)	94.50	6.35	2.88	8.94	1, 12.86
8.5%	Oest. Landerbank 77/82	98.90	5.88	3.25	8.58	1, 11.82
8.5%	O K O 84/78 (G)	99.00	8.28	0.17	8.91	due 1, 11.78
8.5%	Oman 78/88	98.25	8.15	2.36	8.86	1, 3.87-84D
8.5%	Omanio 72/81	98.00	8.25	2.36	8.86	1, 3.87-84D
7.5%	Ozario Hydro 71/88	103.00	7.28	4.12	6.53	1, 11.27-86D
7.5%	Ozario Hydro 72/87	98.25	6.58	4.08	6.71	1, 6.83-87D
8.5%	Ozario Hydro 73/88	98.25	6.58	4.08	6.71	1, 6.83-87D
8.5%	Ozaka 85/80 (G)	99.50	8.38	0.42	6.71	1, 2.80
8.5%	Ozelo 68/80	86.75	7.76	9.50	9.39	1, 3.80
8.5%	Phil. 85/80	50.75	8.25	3.33	8.84	1, 3.87-84D
8.5%	Phil. 71/87	100.00	8.25	3.33	8.84	1, 3.87-84D
8.5%	Ozelo 73/80	99.00	8.82	10.83	8.88	1, 7.78-80B
8.5%	Pakistan 78/88	98.00	8.25	4.01	7.23	1, 7.85-83B
8.5%	Papua 73/88	98.25	6.78	1.83	8.93	1, 7.78-88B
8.5%	Parker-Hannin 77/87PP	84.50	7.14	5.87	7.08	1, 6.83-87D
8.5%	Parker-Hannin 78/78PP	102.00	7.35	6.83	7.13	1, 6.83-87D
8.5%	Pemex 78/88	98.25	6.35	2.88	8.94	1, 1.83
8.5%	Pemex 77/84	98.75	7.02	5.00	7.08	1, 9.84
8.5%	Pemex 78/88	100.00	7.00	6.33	6.99	1, 1.83
7.5%	Petrobras 77/85	97.43	7.18	6.50	7.13	1, 1.83
7.5%	Petrobras 78/88	94.50	7.41	7.01	8.05	1, 10.84-86D
7.5%	Philippine 77/84	95.50	7.59	6.17	8.38	1, 11.84
8.5%	Philippine 78/88	92.50	6.82	1.83	8.93	1, 7.85-83B
8.5%	Philippine 78/81PP	101.00	8.22	1.58	7.66	1, 4.81
8.5%	Philippine 75/81PP	100.00	4.42	1.62	7.77	15, 4.81
8.5%	Philips 78/88	98.25	6.78	1.83	8.93	1, 7.85-83B
8.5%	Philips 78/88	98.25	6.78	1.83	8.93	1, 7.85-83B
5.5%	PfK-Banken 78/88	90.05	8.34	6.59	7.60	1, 5.84-86D
8.5%	Petm. Malacca 76/80PP	100.75	8.18	0.67	8.93	1, 5.80
8.5%	Petm. Malacca 76/80PP	97.43	7.18	6.50	7.13	1, 1.83-85D
7.5%	Privetabk. Copenh. 77/83PP	100.00	7.25	3.58	7.17	1, 4.83
8.5%	Pyhm Autobank 77/88PP	84.75	6.80	7.40	7.18	1, 9.84-89D
7.5%	Quebec 77/87	97.50	5.57	4.15	7.21	1, 7.78-87D
7.5%	Quebec 77/87	101.00	5.57	4.15	7.21	1, 7.78-87D
7.5%	Quebec 77/87	100.00	7.25	7.75	7.24	1, 6.87
7.5%	Quebec 78/87	91.75	8.35	8.08	7.38	1, 9.84-80D
8.5%	Quebec Hydro El. 88/84	100.75	7.00	2.36	8.53	1, 9.84-84S
7.5%	Quebec Hydro El. 88/84	100.4	6.37	2.94	8.94	1, 9.75-84D

**WestLB Euro-Deutschmarkbond Yield Index**  
-August 31, 1979: 7.17% (July 31, 1979: 7.13%)

8.5%	Quebec Hydro El. 71/88	102.25	7.78	3.22	7.01	1, 9.77-86D
8.5%	Quebec Hydro El. 72/87	97.65	6.68	3.80	7.20	1, 9.75-87D
8.5%	Quebec Hydro El. 73/88	97.45	6.87	4.07	7.20	1, 3.79-88D
8.5%	Quebec Hydro El. 77/87	97.75	6.05	7.96	8.68	16, 8.87P
8.5%	Quebec Hydro El. 77/87	97.75	6.05	7.96	8.68	16, 8.87P
8.5%	Queensland Ato. 70/85	103.00	8.25	3.58	7.68	1, 11.77P-85S
5.5%	Raichkovich 78/88 (G)	90.25	8.37	6.61	7.70	1, 4.84-88D
8.5%	Renf. 78/82 (G)	100.00	8.28	2.83	7.43	1, 7.82
8.5%	Renf. 78/82 (G)	100.00	8.28	2.83	7.43	1, 7.82
8.5%	Renf. 77/84 (G)	100.00	7.84	4.58	7.45	1, 4.84
8.5%	Renf. 77/84 (G)	98.50	7.84	7.75	7.48	1, 6.87
5.5%	RioRich Camp. 78/83	98.25	6.88	3.58	7.68	1, 6.83
7.5%	SAAB 71/88	102.50	7.58	3.00	7.17	1, 6.77-85S
10.5%	Sandvik 78/78PP	100.00	10.25	0.17	9.82	due 1, 11.78
8.5%	Sandvik 77/85	97.50	6.87	7.19	7.49	1, 7.85-87S
9.5%	Sandvik 72/81	101.15	14.11	3.74	1.12	2, 2.78-87D
9.5%	Sandvik 77/85	106.80	8.66	3.42	8.82	1, 2.82
9.5%	Santo 78/83	100.00	6.87	4.42	8.85	1, 2.84
9.5%	S.A.P.L. 76/80PP (G)	101.00	8.00	7.44	7.19	1, 7.80
9.5%	Shell Int'l. 72/87	98.75	8.82	7.58	8.33	1, 4.78-87S
9.5%	Shell Int'l. 77/88	100.10	8.81	7.25	8.37	1, 2.85-89D
8.5%	Ship.Co. Nant. 78/80PP (G)	100.00	8.43	7.49	8.17	1, 6.82P
7.5%	Siemens Eurobond 68/81	101.75	8.88	1.86	8.54	1, 11.70-81S
7.5%	Singapore 72/82	89.50	7.04	2.83	7.32	1, 7.78-82S
8.5%	Singapore 77/83	98.50	6.00	6.67	6.96	1, 5.93
8.5%	Sis Krupp 70/85	100.00	8.22	3.15	7.40	1, 9.78-86D
8.5%	Sis Krupp 70/85	100.00	8.22	3.15	7.40	1, 9.78-86D
8.5%	Soc. Dev. Reg. 78/86 (G)	102.50	7.32	3.81	6.72	1, 4.80-86D
8.5%	Soc. Dev. Reg. 77/82PP (G)	122.50	6.76	5.80	7.47	16, 12.83-82D
8.5%	Soc. Mar. 78/83	100.00	6.78	2.27	7.72	1, 6.78-83D
8.5%	Sorrenu 78/84PP	98.50	8.43	7.49	8.17	1, 6.82P
8.5%	South-Africa 68/84	99.50	6.78	4.38	7.00	1, 4.74-84S
8.5%	South-Africa 70/85	100.00	8.34	3.55	8.03	1, 11.77P-85S
8.5%	South-Africa 70/85	100.00	8.34	3.55	8.03	1, 11.77P-85S
7.5%	South-Africa 72/87	97.00	7.79	7.17	7.59	1, 7.85-87S
8.5%	South-Afr. Broadc. 78/81PP (G)	99.50	8.04	1.53	8.21	1, 2.81
7.5%	South-Afr. Oil Fund 78/81 I PP (G)	98.25	7.28	2.12	8.14	1, 11.81
7.5%	South-Afr. Oil Fund 78/81 II PP (G)	98.25	7.28	2.12	8.14	16, 11.81
7.5%	South-Afr. Oil Fund 78/82 I PP (G)	98.25	7.28	2.12	8.14	16, 11.81
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7.5%	South-Afr. Oil Fund 78/82 II PP (G)	98.25	7.28	2.12		

- Life - and "Maturity" appear in years and decimals of years and are—in this context—calculated as follows:
- > life maturity in case of a lump-sum repayment
- > real maturity in case of a sinking fund issue, whenever the quoted price is below 100
- > average life in case of a sinking fund issue, whenever the quoted price is above 100
- > average life in case of a bond issue provides for mandatory drawings by lot or par only

**PP-Private Placement** (the smallest denomination may be larger than the usual DM 1,000 of public issues)

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Continued on Page VII







# More at stake than a major strike

"THE STRIKE is a very delicate weapon. Sometimes a short, sharp strike is a good safety valve. But long strikes are of no use to union or nation. I will strive to reduce them."

"The action we will be recommending will be in excess of what we are meeting out now. We cannot discount a prolonged dispute."

Both comments come from Mr. Terry Duffy. The first was made on the day last year he was elected president of the Amalgamated Union of Engineering Workers, following a campaign in which he argued against unnecessary use of the strike weapon. The second came last month as he announced an increase in the most serious national industrial action to hit the engineering industry for many years.

## Two monoliths

Those who believe that the Left-Right spectrum of a union's leadership has a simple correlation with levels of strike activity will be left wondering what is happening in the leading engineering union at a moment when it is—for the first time in decades—in the control of an all-moderate executive committee. Mr. Duffy is leading a strike the intensity of which Lord Scanlon, for years a frightening figure of the Left in the area of many engineering employers, never equalled. The reasons for the dispute, which risks bringing Britain's biggest industry and leading exporter to its knees, stem at least as much from chance as from a grand design.

There is little warmth in the relationship between the Engineering Employers Federation (EEF) and the Confederation of Shipbuilding and Engineering Unions (CSEU), the two monoliths of the industry. The annual negotiations on the national pay and conditions agreement provide a regular opportunity for each to

accuse the other of refusing to come to terms with the 20th century. But the match usually ends with the two teams pulling up the stumps and, instead of beating each other with them, declaring something approximating to a draw. One of the main reasons why the negotiations do not often lead to strikes or other action is the widespread belief—challenged by the events of recent weeks—that it is near-impossible to mount large-scale action about the national agreement when the real earnings of most engineering workers are determined at local factory and district level.

Against this familiar background the present round of negotiations opened, predictably enough, with sounds of growling as the unions declared the employers' initial offer "totally unacceptable." Even as subsequent meetings failed to reach agreement and Mr. Duffy warned that the two sides were "collapsing," there were many—including some of those around the negotiating table—willing to bet against there being a strike. And, indeed, there probably would not have been if Mr. Duffy and his fellow executive members had not suffered defeat by only one vote at a meeting of the AUEW's policy-making National Committee held to consider the progress of the negotiations in June.

The employers had by that stage offered to increase the national minimum craft rate from \$50 to \$58 per week—with proportionate rises for other grades—in response to the union claim for \$60. CSEU negotiators had indicated to the employers that they would be prepared to settle for \$70. The AUEW executive, meeting in a City of London Ivory Hall on the day when public attention was distracted by the Conservative government's first Budget, sought the National Committee's authority to make

one more journey to the EEF in the hope of settling at \$70 before launching into industrial action. Not only did the committee say no, it left the executive with a virtually non-negotiable set of demands—the full \$80 claim, one hour off the 40-hour working week this year leading to a 35-hour week by 1982, two days' extra holiday and the continuation of a common implementation date for the national agreement, rather than the employers' proposal to date it to coincide with local settlements as they are made.

At one level the vote in the National Committee represented AUEW policies—the left-wing made some gains in the elections for the decision-making body this year. But at another level it was indicative of the unusual atmosphere which has pervaded the negotiations this year and it is this factor—now that the two sides are entrenched in a real dispute—which is making its resolution so difficult.

If the need to rid the country of unnecessary strikes was one plank of Mr. Duffy's election campaign, another was his conviction that the distinction in conditions of employment between manual and white-collar employees must be eliminated. His election address to members went into block capitals to stress a philosophy on which Mr. Duffy's political friends and opponents combine to agree he is wholly sincere: "The second class citizen status of our manual workers must be removed—it is unjust, unfair and degrading in our present industrial society, and a cause of discontent."

## Working hours

This commitment of the new president meant that, unlike the position in many previous negotiations, the "working conditions" aspects of this year's engineering claim did not fade



TERRY DUFFY  
... fulfilling principles

away in the early stages of talks. And by the time Mr. Duffy came to report on the progress of negotiations to the National Committee's annual meeting in May he had elevated one aspect of the conditions demands—the need for a shorter working week—into a central principle. "Someone, somewhere, has got to take on the employing class on the shorter working week. We have got to have some battles on shorter hours," he declared.

It is not only because of Mr. Duffy's personal interest that the CSEU desperately needs to win on the hours issue. The fact that a minority of engineering workers have defied the strike call has diverted attention from a phenomenon which is at least as remarkable—the majority of workers are obeying strike instructions in spite of the fact that most earn more than the new minimum rates being sought, and stand in gain-compensatively little in cash

terms from the eventual settlement.

This does not necessarily signify passion for the cause—it could as easily be a tribute to basic trade union organisation and shop steward power. But, in view of the fact that the national agreement means comparatively little to many workers the question of whether the dispute was really worthwhile is going to loom large when it is over. If the action ends with the British engineering unions, having made a breakthrough on shorter working hours—something which is encountering the vigorous opposition of employers both nationally and internationally—it will be hailed as a victory of historic proportions. If not, the unions may have appeared to have got little more from industrial action than could have come from negotiations.

The EEF has dug in on the hours issue as firmly as the Confederation. A reduction to 39 hours would, it fears, simply lead to extra overtime and an increase in the industry's costs by 4 per cent or more. It has suggested a working party to consider shorter working time in the long-term in the context of harmonising manual and white-collar workers' conditions, but this solution was on offer before the dispute began.

It was not only on the union side that the general atmosphere outside the negotiations contributed to the dispute. In February the EEF—one of the most powerful and outspoken of employers' organisations—organised a national conference at the Royal Festival Hall where some strong words were spoken about the need for employers to stand up to trade union power. The following month—in the very week that negotiations resumed—the EEF published a tough set of guidelines for local negotiators calling for a united stand

by employers in any dispute. Justified or not, some engineering workers undoubtedly saw all this as an attempt by employers to shift the balance of advantage in their favour now that the Scanlon era was over and an avowed moderate was at the head of the AUEW.

## Hard-line EEF

Since the industrial action started, relations between the unions and employers have become quite bitter. At preliminary discussions in Manchester earlier this month they spent much of their time disagreeing about who had first called for the meeting. Union leaders are angry about what they believe are unrealistically hard-line attitudes on the EEF's part. At the Manchester meeting the employers said they were ready to make an improved offer but refused to unveil it until there was a return to normal working. The unions were then furious when the Rolls-Royce decided to close down its aircraft engine operation completely and lay off all 30,000 manual workers, although the EEF says it has no policy of encouraging companies to close down because of the dispute.

So while today's talks at the Advisory, Conciliation and Arbitration Service are a move towards reopening negotiations there is no guarantee that they will lead to an early settlement. This morning's talks have the limited purpose of seeing whether an agenda for negotiations can be agreed; if it can the two sides will meet again on Wednesday.

The EEF and the Confederation are both umbrella organisations with highly diverse memberships, spanning the biggest and smallest companies and unions in the industry. Both have energetic men at the head of their permanent organisations—Mr. Anthony Frodsham

at the EEF and Mr. Alex Ferry at the Confederation. But while the EEF's resources in both its Westminster headquarters and regional associations are extensive, the Confederation's central organisation is tiny. It operates from a small office next to what is in the process of becoming the new Labour Party headquarters in South London.

Although the Confederation encompasses the entire spectrum of manual and white-collar TUC unions in the engineering industry, on engineering matters the running is very much made by the AUEW. Many of the smaller Confederation unions are organisations with which the AUEW would like to amalgamate and this issue, as much as the disputes, will be on Mr. Duffy's mind this morning.

The conference of the AUEW's four sections meets in Eastbourne today—it was deferred from May amid wrangling about the future of the amalgamation between the Right-wing leaders of Mr. Duffy's engineering section and the Left-wing leadership of TASS, the white-collar section. For ten years now, internal differences have prevented the AUEW from bringing its four sections together into a complete amalgamation, but at last things could be moving.

The construction and foundry sections have agreed in principle to complete the amalgamation through a transfer of their members to the engineering section under the Trade Union (Amalgamations) Act. Even more significant, a special conference of the 75,000-strong National Union of Sheet Metal Workers will this week decide whether it should amalgamate with the AUEW. If this is agreed it will end ten years of stagnation—until now other unions have shown no enthusiasm for joining the AUEW

while the difficulties of the existing amalgamation remained unsolved.

For Mr. Duffy, the two issues facing him this morning—the future of the strike and the future of the amalgamation—could come together in an acutely personal way. Under his union's long and elaborate election procedures his campaign for re-election to the presidency gets under way next year—newcomers are allowed only three years in the job before being sent back to face the members.

If he can go back to them with the amalgamation difficulties on the road to resolution, and having achieved a breakthrough on the shorter working week as part of his campaign to abolish the distinction between manual and white-collar workers, it will be a credible prospectus. But if the strike goes wrong it is likely, when the details have been forgotten, to be Mr. Duffy who gets the blame rather than the anonymous National Committee delegate whose vote led to the defeat of the executive.

## Harsh reality

If this seems a little harsh, it represents a political reality of which Mr. Duffy is very aware. As he wrote elsewhere in his election address: "Our National Committee determines our union's policy; the president and other full-time officials carry out that policy. This is effective democracy in action and I pledge myself loyally to fulfil all obligations placed upon me."

No-one who has seen the robust and dedicated way in which the man who campaigned against strikes is leading this one could dispute that he is loyally fulfilling what is, in many ways, his union's highest principle.

## Letters to the Editor

### Post Office split

From the General Secretary, Council of Post Office Unions.

Sir,—In an otherwise fair account of attitudes and problems arising from the Government's intention to split the Post Office, John Lloyd says of the industrial democracy experiment: "... it is an open secret that there has been disappointment on both sides."

If so, it has been kept from me, the unions' negotiator on this issue. Both Post Office and unions are reviewing the progress of the experiment with a view, the unions hope, to making a joint report to the Government. True, we understand that there are two views on the Board. There are not among the unions. We want the existing arrangements to continue beyond the present March deadline (for the Board itself) until the Post Office is reorganised in the light of the Government's intention to split; thereafter, it would be for the two corporations to make their own arrangements.

The unions are satisfied that the industrial democracy experiment has been positive in its effect and that it has potential for the future. In the difficult phase the Post Office has now entered it is more than ever necessary that mutual confidence should be aimed for. Industrial democracy will assist in that.

A. Carter,  
11-12, Maiden Lane, WC2.

### Equal opportunities

From the Chairman, Equal Opportunities Commission.

Sir,—Sue Cameron's article "Discriminating against women" in last Thursday's *Financial Times* rightly draws attention to the sex discrimination inherent in certain of the Government's proposed changes in immigration control. However, the Equal Opportunities Commission is distressed to see that it has been wrongly attributed with the statement "well-educated, white, middle-class women will be among those hardest hit."

The Commission has not said this. Our concern is for the rights and well-being of all British women, irrespective of race, colour, creed or social class. We do not wish to be represented as confining our attention to select groups alone, particularly in an area of such vital importance to all women and their families.

Baroness Lockwood,  
Chairman, Equal Opportunities Commission,  
Overseas House,  
Quay Street, Manchester.

### Unequal colour

From Miss C. M. Waterhouse

Sir,—As one of the "well educated, white, middle-class women" referred to in the *Financial Times* article on "Discriminating against Women," I feel outraged that any Government should even consider curbing the rights of a British citizen. Why it should be that potential EEC husbands are considered "more suitable partners than non-EEC men, I

cannot imagine and then to permit male British citizens to dwell in this country with a wife of any nationality, simply compounds the injustice.

If it is the Government's intention to exclude Asians from this country, then the legislation to be passed should be racist, and labelled such, not sexist. Miss C. M. Waterhouse,  
14, Trafalgar Court,  
Southcote Road,  
Reading, Berks.

### Funded pensions

From Mr. A. G. Saunders and Mr. C. D. French.

Sir,—Mr. Nottage suggests (September 10) that public sector pension schemes should switch from advance funding to pay-as-you-go in order to achieve an immediate reduction in current costs. In doing so he does not justice to either side of the equation. If we have six employees and two pensioners, the output from the six can probably support the pensions for the two on a pay-as-you-go basis. In due course the six will retire and be replaced. We will then have six employees supporting eight pensioners—a serious imbalance.

A pay-as-you-go scheme which promises pensions based on earnings valued in line with the rate of inflation will face the same problem as a "funded" final salary based scheme—liabilities which have become onerous because of the effects of inflation. At least the funded scheme attempts to make some provision in advance to meet its commitments whereas members of the pay-as-you-go scheme can only hope that their children will be willing to provide them with their pensions.

Perhaps Mr. Nottage should be reminded that the State additional pension scheme promises pensions based on revalued earnings to be provided on a pay-as-you-go basis and the ratio of UK pensioners to contributors is increasing. Very little foresight is needed to recognise the serious imbalance looming ahead.

"Have we not visited enough 'overheads' upon our children?"

A. G. Saunders, C. D. French,  
39 Bath Street,  
Glasgow.

### Company disclosure

From Mr. Tony Vernon-Harcourt

Sir,—Your editorial yesterday (September 12) expressed unease that the government proposed to reduce the disclosure requirements for certain categories of company. In particular, the green paper proposes some specific changes in thresholds immediately, prior to the introduction of any legislation.

The threshold for disclosure of turnover is to be raised from £250,000 to £1m. It is difficult to see that the requirement to disclose turnover is burdensome or that shareholders would benefit from this change.

The threshold for disclosure of directors' emoluments is to be raised from £5,000 to £40,000. This would severely restrict the information available to shareholders of mainly family companies who may well wish to be informed concerning the remuneration drawn by

their relations from the company.

It is further proposed that the bands for the disclosure of directors' earnings should be widened to £5,000. It is difficult to see how this reduces the burden on companies. It merely provides shareholders with less precise information. Surely it might be better to move towards the American practice of disclosing emoluments for each director. This would appear to follow the EEC directive from which the proposed legislation derives.

It also suggests that the disclosure of the number of employees earning over £10,000 is a "meaningless burden." Undoubtedly the protection of this data requires work and certainly the raising of the threshold can be justified. However, for potential professional employees, the numbers in this category can be a useful indicator of their chances of earning a high remuneration.

As the author of a series of studies on management remuneration, naturally I have a vested interest in this subject. Nonetheless, it is unlikely that several hundred companies would be willing to buy and find the data useful.

Directors are the only group of people in a company who determine their own remuneration. It seems reasonable that shareholders who appoint directors should be able to monitor properly the rewards the directors draw from the business.

Tony Vernon-Harcourt,  
25, Mirk Street, E.C2.

### Channel tunnel

From Mr. George Behrend

Sir,—The answer to Mr. P. R. Easton's *cri de coeur* (Saturday last) for a solution to the country's transport problems including relieving airport congestion without creating an environmental problem is quite simple: it is called the Channel Tunnel.

The Tunnel should be built to Bernese European Gauge so that foreign trains can work into Britain and long distance transits taking weeks to Turkey or Iran would not be hampered by shortage of short haul flights as used in UK. Airports would be relieved of short haul flights altogether to Paris, Brussels, Amsterdam, etc., and those very airports, by no longer having to provide for flights to London, would have extra capacity for passengers from London to board for long distance flights. Since the British can work in the Common Market, no jobs would be lost by not having an extra airport in UK.

George Behrend,  
Villa Mon Contour, Flagey,  
St. Martin, Jersey, CI.

### Dangers of indexation

From Mr. D. C. Bevers

Sir,—Can Samuel Brittan be serious about some of the things he advocates in his article "Time for cost of living safeguards" (September 13)?

Indexation of wages can create a number of problems as he rightly points out in the article but the most serious

problem was not mentioned. Indexation provides increases like "manna from heaven." People start to believe (if they don't already) that wage increases do not have to come as a result of generating wealth; they just materialise in the pay packet as the indices move. Of course, wages have to move in line with inflation but agreements which tie increases directly to RPI or some other measure give company management little opportunity to explore ways of generating the extra cash to fund it.

What if the index rises at an unforeseen rate? Well, Mr. Brittan suggests a re-opener clause for emergencies and these can be defined by "the impartial tribunals and expert bodies," he says. Has he seen some of the decisions which come from these bodies? Has he experienced the industrial relations chaos caused by this form of third party intervention?

No, Mr. Brittan, indexation is not the answer and it could be worse than nothing at all.

D. C. Bevers,  
70 Widney Lane, Southill,  
West Midlands.

### The third airport

From Mr. S. Davidson

Sir,—Mr. B. Williams in his letter (September 12th), from an address comfortably distant from Stansted, makes the fundamental error of equating progress with modern technology. What is at stake is quality of life. In this instance for many thousands of residents of East Hertfordshire and West Essex. Stansted and the other sites under consideration are all situated in predominantly rural areas, the inhabitants of which have either chosen to remain in the rural environment into which they were born, or have migrated as a result of exercising their freedom of choice to select their own environment for work, family and recreation.

It is to their credit that "small vociferous groups" care sufficiently about the quality of their own and their neighbours' lives to take issue with the mighty bureaucratic machinery which, like Mr. Williams, sees progress in terms of converting green field and hedgerow into concrete jungle.

The least concern of those who live near the proposed sites is aircraft noise. What is of concern is the wholesale conversion of countryside into the urban and industrial areas that are an inevitable consequence of a major new airport.

It is not for local groups to take issue with the experts over the need for greater airport capacity, but it is for them to voice the expert view about the quality of life in their neighbourhood. The only viable solutions that ensure real progress—i.e. a better service to air travellers and preservation of the countryside are (i) a spreading of the load throughout all the UK's existing airports (including Stansted) with fixed ceilings to the volume of traffic movements, or better (ii) reverting, at enormous financial but not human cost, to a coastal site. Inland airports can be the antithesis of progress, Mr. Williams.

M. S. Davidson,  
The Bower,  
70 Birchanger Lane,  
Birchanger,  
Nr. Bishop's Cleeve, Here.

### GENERAL

UK: Zimbabwe Rhodesia constitutional talks continue, Lancaster House, London.

Executives of the Confederation of Shipbuilding and Engineering Unions and the Engineering Employers' Federation called to Advisory Conciliation and Arbitration Service to discuss engineering dispute—the two-day strike begins today and the national overtime ban remains in force.

Transport and General Workers' Union executive meeting throughout this week.

Amalgamated Union of Engi-

neering Workers special conference opens, Town Hall, Eastbourne (until September 18).

Merchant Navy officers' pay claim.

Cigarette prices increase by Galaher and British-American Tobacco by 3s per packet of 20.

Statement by Association of Scientific, Technical and Managerial Staffs on silicon chip technology campaign.

Mr. James Prior, Employment Secretary, launches Manpower Commission's "Fit for Work"

## Today's Events

Overseas: Meetings of European Economic Community finance and agricultural councils, Brussels.

Foreign Minister, meets Herr Hejmut Schmidt, West German Chancellor, in Bonn.

Mr. John Nott, Secretary for Trade, continues visit to West Coast of U.S., Fiji, New Zealand and Australia.

OFFICIAL STATISTICS

Central Statistical Office issuing Cyclical indicators for the UK economy (August).

COMPANY MEETINGS

See Week's Financial Diary on page 23.

These Notes having been sold, this announcement appears as a matter of record only.

New Issue

September 1979

**Credit Foncier**  
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**\$30,000,000**  
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Dominion Securities Limited  
Dresdner Bank Aktiengesellschaft  
Effektenbank-Warburg  
Aktiengesellschaft  
First Chicago Limited  
Robert Fleming & Co. Limited  
Fuji International Finance Limited  
Genossenschaftliche Zentralbank AG  
- Vienna  
Girozentrale und Bank der  
Österreichischen Sparkassen  
Aktiengesellschaft  
Goldman Sachs International Corp.  
Greenshields Incorporated  
Hambros Bank Limited  
Hill Samuel & Co. Limited  
IBJ International Limited  
Kansallis-Osake-Pankki  
Kiddier, Peabody International Limited  
Kleinwort, Benson Limited  
Kreditbank N.V.  
Kreditbank S.A. Luxembourggoise

Lazard Brothers & Co., Limited  
Levesque, Beaubien Inc.  
Lloyds Bank International Limited  
Manufacturers Hanover Limited  
McLeod Young Weir International  
Limited  
Mitsui Finance Europe Limited  
Samuel Montagu & Co. Limited  
Morgan Grenfell & Co. Limited  
Nesbitt, Thomson Limited  
The Nikko Securities Co., (Europe) Ltd.  
Nippon European Bank S.A.  
Nomura Europe N.V.  
Norddeutsche Landesbank Girozentrale  
Orion Bank Limited  
N.M. Rothschild & Sons Limited  
Salomon Brothers International  
Scandia Bank (Underwriters) Limited  
Scandinavisk Bank Limited  
Schroder, Münchmeyer, Hengst & Co.  
Skandinaviska Enskilda Banken  
Société Bancaire Barclays (Suisse) S.A.  
Société Générale  
Sparkassen SDS  
Sumitomo Finance International  
Svenska Handelsbanken  
Tokai Kyowa Morgan Grenfell Limited  
Trade Development Bank,  
London Branch  
Westdeutsche Landesbank Girozentrale  
Williams, Glyn & Co.  
Wood Gundy Limited  
Yamaichi International (Europe) Limited



## COMPANY NEWS

Laird Group  
ahead midway

TURNOVER OF the Laird Group rose sharply from £58.9m to £101.18m in the first six months of 1979 and pre-tax profits were higher at £5.04m compared with £4.33m in the same period last year.

The directors are effectively raising the interim dividend from 1.327p to 1.7p payable on December 3 and intend recommending total dividends of this year of 3.4p. Last year's payment was an equivalent 2.71p on record pre-tax profits of £11.12m.

First half profits were struck before tax of £1.75m against £1.85m and an extraordinary item in the previous year of £350,000. Referring to claims for compensation for the nationalisation of Scottish Aviation and the 50 per cent shareholding in Cammell Laird Shipbuilders which were submitted in March 1977, the directors say no acceptable offer has been made by the Government and both claims will therefore be the subject of arbitration proceedings.

So far, payments received on account amount to £2.5m.

## ● comment

Laird's first half results are surprisingly good given that the metal industries division suffered a £2.5m turnaround to losses of £1m due to the haulage strike and the sharp rise in scrap metal prices. Elsewhere in the group, profits jumped by more than 80 per cent, thanks mainly to the train and bus companies which are benefiting from the upsurge in demand for public transportation systems, and the elimination of losses on their shiprepairing side. Although scrap metal prices are now starting to fall, the outlook for steel (17 per cent of profits last year) is not encouraging, mainly because of chronic overcapacity in the sector. Also, the current engineering stoppage is casting a shadow over second half prospects. However, there should be a boost to bus sales following BL's decision to close down a major plant while Burnley Engineering should continue to benefit from growth in the aerospace industry. At 81p the prospective yield is 8.1 per cent—slightly less than the sector average.

## BOARD MEETINGS

**TODAY**  
Interim—A. and C. Black, Black and Edgington, Horace Cory, Federated Land and Building, J. B. Holdings, Low and Bonar, Ransomes, Sims and Jefferies, Simon Engineering, Henry Sykes, United Securit.

**FUTURE DATES**  
Amelco ..... Sept. 24  
Cordoba ..... Sept. 25  
Dunlop ..... Sept. 27  
Gen. and Concl. Invest. Trust ..... Sept. 27  
Gibbs (Antony) ..... Sept. 18  
Harris Queensway ..... Oct. 3  
Journan (Thomas) ..... Sept. 21  
Laidlaw's ..... Sept. 20  
Sedgwick Forbes Bland Payne ..... Sept. 20  
Senior Engineering ..... Oct. 8  
Trenth Mines ..... Sept. 20  
Weddin ..... Oct. 17  
Westpool Investment Trust ..... Oct. 17  
Finel—Mills and Allen International Sept. 18

Support for  
Spillers' management

**SPELLERS'** three non-executive directors yesterday voiced their support for the company's existing management.

Mr. P. G. Best, Mr. P. J. Elton and Mr. G. A. Whitaker, said they had been concerned about statements regarding the competence of Spillers' management to achieve improved results in the future.

"We wish to make it clear that we have been fully involved in the planning for the future of Spillers and in reaching the decisions for the future growth of the company."

"This Board, under the chairmanship of Michael Vernon, is a constructive and well organised Board which speaks freely and takes action."

"Since we joined the Board we have become increasingly impressed with the very real opportunity for profit growth and with the executive directors' and management's determination and ability to take all steps necessary to achieve this. We shall do all we can to ensure that whatever steps may be necessary are taken."

## ● BERWICK TIMPO BATTLE

Toymaker's fate  
in the balance

BY ARNOLD KRANSDORF

Shareholders of Berwick Timpo, the embattled toy manufacturer engaged in a bitter Boardroom struggle, have until Wednesday to decide the company's future management structure.

They are being asked to choose between a Board led by Mr. John Oakley, 53, chairman for the past five years, or one which will include Mr. Torquill Norman, 45, chief executive for eight years before resigning in May.

The issue comes to a head at an extraordinary meeting on Wednesday after more than six weeks of acrimonious exchanges, which have included pledges of resignation by four directors if the Board changes are approved. Resolutions, backed by Mr. Norman, call for the removal of Mr. Oakley and two other directors, Mr. J. A. C. Hill and Mr. J. A. Stitt, and the appointment to the Board of Mr. Norman and Mr. J. M. C. Andrews.

## Over 40% claimed

The former chief executive says he has firm shareholder backing from holders of 37.6 per cent of the company's equity. Up until the end of last week, additional proxies had lifted this figure to "significantly above 40 per cent," he claims.

According to Mr. Norman there are institutional shareholders controlling some 28 per cent of the capital who have not yet taken a firm decision.

Both sides say they have had a "good response" from the undecided institutions. With Mr. Oakley claiming that "most" of the group's major shareholders other than those committed to Mr. Norman have indicated their support for the board.

A simple majority will win the day so an important factor will be the level of shareholder response to the resolutions. Mr. Oakley needs a high turnout but in view of Mr. Norman's head start, traditional shareholder apathy could put him and several other directors, out on the street.

If Mr. Norman loses, no changes are expected on the present board.

If Mr. Norman wins he faces the prospect of mass resignations from the remainder of the board. The finance director and managing directors of three key subsidiaries have pledged not to work for Berwick Timpo under the stewardship of their previous colleague.

Mr. Norman has called on them to reconsider their positions but has said: "If not, we have people in mind within the subsidiaries, and one or two people from outside."

The three managing directors have said that the implications of their resignations would be "staggering." It would take a long time for the company to pull back to the position it is in now," they say.

But Mr. Norman is "confident that the subsidiaries will operate effectively until replacements are found."

While the protagonists disagree on the consequences of Wednesday's vote, they have, at least, concurred on the origins of the dispute: it was the refusal of Mr. Oakley to support Mr. Norman's proposals for improving the supervision and management of two loss-making companies, Model Toys and Flair Toys, that caused the policy disagreement leading to Mr. Norman's resignation and his subsequent proposals for restructuring the board.

## Avoiding publicity

After taking advice from Hill Samuel, the company's merchant bank and Rowe and Pitman, the company's brokers, Mr. Norman says he was left in no doubt that he should do everything possible to avoid a public row over the policy disagreement.

By withdrawing from the board, he felt he could talk privately and gain the support of major shareholders, and then persuade the board to accept his proposals.

The Oakley camp claims that Mr. Norman intended to try and force through the board changes even before his resignation.

By August 22 Mr. Norman claimed he had the backing of 37.6 per cent of the equity, a figure which included the support of Caparo Group (10.7 per cent), clients of Charterhouse Japhet (6.9 per cent) and Scottish Northern Investment Trust (4.4 per cent).

However, an obligatory takeover bid was triggered after passing the 30 per cent level. At the time Mr. Norman said the bid—a cash offer of 75p per share—was purely technical.

In its defence the board committed itself to raise the full-year dividend by 80 per cent to 6p per share and forecast pre-tax profits of "not less than £1.4m—an increase of a third." According to Mr. Norman, the company's pre-tax profits jumped from £254,000 to a forecast of not less than £1.4m while he was chief executive. The excellent performance expected for the current year "is the result of the hard work and managerial reorganisation instigated by me," he claims.

## The choice

Referring to the previous policy of consolidation within the group, Mr. Norman says: "As chief executive I would have had to take the rap if the strategy had failed; I must be entitled to a share of the credit."

Mr. Oakley thinks otherwise. "As chief executive of Northern, he is, of course, however much he tries to avoid the point, just as much responsible for the management and supervision of the two loss-making subsidiaries as for the profitable ones."

"The choice before you is between one man who failed to solve the group's problems when he had the opportunity and the combined abilities and talents of the existing proved board."

On balance, Mr. Norman looks to have the edge. On top of committed shareholder backing totalling 37.6 per cent, he has the support of two major broking houses, Greaveson Grant and Hoare Govett, while up to now there has been no visible backing for Mr. Oakley apart from his board colleagues.

The ammunition having been exhausted, it is the shareholders who will now have the last say.

## UK NEWS

Brokers argue against  
early drop in MLR

BY PETER RIDDELL, ECONOMICS CORRESPONDENT

MINIMUM LENDING Rate should not yet be reduced from 14 per cent, says stockbroker and leading monetary commentator W. Greenwell.

In the latest monetary bulletin published this morning the firm says the behaviour of the broader monetary aggregates over the past two months is "reasonably encouraging, bearing in mind that there is a lag before a rise in interest rates has its full effect on them."

"But the evidence that monetary growth is becoming satisfactory is very fragile; it is certainly insufficient for the authorities to reduce MLR."

Similarly, Buckmaster and Moore—for whom Mr. Geoffrey Wood of the City University is a consultant—argues that monetary policy is not excessively tight.

The growth of bank acceptances, or commercial bills, held outside the banking system and not included in the main statistics, means that the published figures for sterling M3, the broadly defined money supply, understate the true rate of growth by between 2 and 4 per cent.

Both brokers also join in the growing debate about the right policies for the coming recession: both reject suggestions that fiscal policy or monetary targets should be relaxed.

Buckmaster and Moore argues that the monetary target should be reduced slightly next April, and public sector borrowing could also continue to be reduced gradually. If the

economy is supported by a firm floor to money growth—if necessary by purchases of gilt-edged stock by the Government

Brokers—such a combination of policies would produce steadily falling inflation without a sharp fall in employment.

Greenwell suggests that inadequate monetary growth could be a danger next year, though it is not at present. The authorities should act to stop the money supply from falling below the gradualist path of a steady long-term reduction (for example, by rationing sales of gilt-edged stock).

The brokers reject the view that the target range for the money supply should be raised. "Further, in no way does the coming recession reduce the need for cuts in public expenditure."

Buckmaster and Moore argues that the monetary target should be reduced slightly next April, and public sector borrowing could also continue to be reduced gradually. If the

Problems  
for marine  
insurance

Financial Times Reporter

THE ANNUAL CONFERENCE of the International Union of Marine Underwriters starts in Edinburgh today with marine underwriters in the midst of one of the most unprofitable and worrying periods on record. The conference, involving 510 underwriters from 42 countries, was last held in the UK ten years ago.

One major issue could well be overcapacity, which is perhaps the biggest single problem in the marine insurance business, particularly for the major markets such as London.

Under the three-year accounting system to allow for the traditional long-tail claims nature of the business, 1976 was the last year to show profits. Since then the trend has turned decidedly sour, and many insurers think that 1979 could produce catastrophic underwriting results.

The cargo market is affected by rates which are considered too low. A major factor this year is the alarming jump in the shipping casualty graph, especially in the summer months, with a string of big tanker losses.

Television rental trade  
'moving into growth era'

BY JOHN LLOYD

THE TELEVISION rental industry is now moving into a "totally new era of growth," according to a report from stockbrokers Laurie Millbank.

Rental of colour TVs—the companies' main business—has declined from 78 per cent of the consumer's market in the early 1970s to 65 per cent now.

At the same time, the main impact on profitability of the incidence of depreciation on sets introduced in the early seventies is being felt.

However, the report believes that the new TV-related products—video cassette recorders, video long playing discs and videodata systems—will "fulfill growth expectations."

The effect of the rental of new products on profits is expected to materialise in the late 1980s. Until then, the report believes that profits on colour TV rentals "will continue to expand."

"Although the arguments in favour of rental colour television may not now be so compelling as in the early 1970s, we believe that users of the new products will prefer to rent these systems."

"This is for exactly the same reasons that early users of colour TVs preferred to rent, namely that the reliability of the products is not yet established, the cost of purchase is still falling and the technology is still developing."

## LOCAL AUTHORITY BOND TABLE

Authority (telephone number in parentheses)	Annual Interest gross pay- interest able	Minimum sum	Life bond
Barnsley (0226 203232).....	12	1-year	250 3-5
Barnsley (0226 203232).....	12½	1-year	350 6-10
Burnley (0282 25011).....	12½	1-year	500 5-7
Kirkcaldy (0484 22133).....	12	1-year	500 2½
Kirkcaldy (0484 22133).....	12½	1-year	500 2
Knowsley (051 548 6555).....	11½	1-year	1,000 1
Knowsley (051 548 6555).....	12½	1-year	1,000 5-7
Redbridge (01-478 3020).....	11½	1-year	200 4-5
Redbridge (01-478 3020).....	12½	1-year	200 6-7

This announcement appears as a matter of record only.

The Republic of Ecuador  
\$100,000,000  
Ten Year Loan

Managed By

Loeb Rhoades Shearson International Limited First Chicago Panama S.A.

International Mexican Bank Limited Midland Bank Limited

The Mitsui Trust and Banking Company, Limited The Sumitomo Bank, Limited

The Yasuda Trust &amp; Banking Company, Limited

Provided By

The First National Bank of Chicago

International Mexican Bank Limited Midland Bank Limited

—INTERMEX—

The Mitsui Trust and Banking Company, Limited The Sumitomo Bank, Limited

The Yasuda Trust &amp; Banking Company, Limited

Bank of British Columbia Bank of Montreal International Limited

Bank of Tokyo and Detroit (International) Limited

Dai-ichi Kangyo Bank Nederland N.V. Dai-ichi Kangyo Bank (Schweiz) A.G.

Irving Trust Company Mellon Bank N.A.

Midland Bank France S.A. Midland Bank Trust Corporation (Jersey) Limited

Mitsubishi Bank (Europe) S.A. Nippon European Bank S.A.

The Royal Bank of Canada International Limited The Saitama Bank, Ltd.

The Taiyō Kobe Bank, Limited The Tokai Bank, Limited

UBAF Arab American Bank U.B.A.E.—Union de Banques Arabes et Européennes S.A.

Union Trust Company of Maryland

Agent Bank

International Mexican Bank Limited

—INTERMEX—

July 1979

## The Nippon Credit Bank, Ltd.

Negotiable Floating Rate U.S. Dollar  
Certificates of Deposit  
Maturity date: 17 March, 1981

In accordance with the provisions of the  
Certificates of Deposit notice is hereby  
given that for the six month interest period  
from 17 September 1979 to 17 March 1980  
the Certificates will carry an Interest Rate of  
13½% per annum.

Agent Bank  
The Chase Manhattan Bank, N.A.,  
London

## SIMCO MONEY FUNDS

Simon Lawrie Smith  
Managing Director  
66 CANAL STREET CANARY WHARF  
Telephone 01-236 1125

Rates paid W/E Sept. 16th, 1979	7-day	30-day
Mon.	13.571	14.036
Tues.	13.694	14.051
Wed.	13.741	14.058
Thurs.	13.808	14.030
Fri./Sun.	13.878	14.044

The Kingdom  
of Thailand

U.S. \$30,000,000

Floating Rate Notes 1984

In accordance with the provisions of the Notes notice is hereby given that the Rate of Interest for the 6 month Interest Period has been fixed at 13½% per annum. The Coupon Amount of U.S. \$65.68 will be payable on 17th March, 1980 against surrender of Coupon No. 2.

17th September, 1979  
Manufacturers  
Hanover Limited  
Agent Bank

THE BANK OF YOKOHAMA, LTD.

Negotiable Floating Rate U.S. Dollar  
Certificates of Deposit maturing  
15 March 1982

In accordance with the provisions of the Certificates of Deposit, notice is hereby given that for the interest period from 15 September 1979 to 15 March 1980 the Certificates will carry an interest rate of 13½% per annum.

Agent Bank  
17 Sept. 1979 First Chicago Ltd.

THE  
LAIRD GROUP  
LIMITED

## Interim Results 1979

(subject to audit)

	Half Year to 30 June 1979 £'000	Half Year to 30 June 1978 £'000	Year 1978 £'000
Turnover	101,176	68,997	150,979
Profit before Tax	5,043	4,825	11,116
Tax	(1,750)	(1,850)	(4,092)
Profit after Tax	3,293	2,975	7,024
Extraordinary item	—	(350)	(690)
Profit available for Ordinary Stockholders	3,293	2,625	6,334
Dividend	(823)	(638)	(1,303)
Retained Profit	2,470	1,987	5,031

## Notes

1. An interim dividend of 1.7p net per Ordinary Stock Unit (1978 1.327p net) will be paid on 3 December 1979. It is intended to recommend a total dividend for 1979 of 3.4p net (1978 2.71p net). The comparative figures for 1978 have been adjusted for the capitalisation issue made earlier this year.

2. The tax charge includes £1.4 million of overseas tax (1978 £1.5 million).

3. Claims for compensation for the nationalisation of Scottish Aviation and the 50% shareholding in Cammell Laird Shipbuilders were submitted in March 1977.

No acceptable offer has been made by the Government and both claims will therefore be the subject of arbitration proceedings. So far, the payments received on account amount to only £2.5 million.

مكتبة الدكتور















## CITY OF TURIN

## 6 1/2% Sterling/Deutsche Mark Bonds 1964/1984

S. G. WARBURG & CO. LTD., announces that the redemption instalment of £330,000 due 15th October, 1979 has been met by purchases in the market to the nominal value of £29,400 and by a drawing of Bonds to the nominal value of £270,600.

The distinctive numbers of the Bonds, drawn in the presence of a Notary Public, are as follows:-

£500 Bonds			
324 to 329	331	332	333
361 to 363	366	367	368
416 to 438	440 to 448	450	451
496 to 497	514	553	556
575 to 581	586 to 588	590 to 592	594
622 to 626	627	628 to 633	635
693 to 694	695 to 697	698 to 703	705
704 to 706	707 to 709	710 to 714	715
716 to 717	718 to 720	721 to 722	723
724 to 727	728 to 730	731 to 732	733
734 to 735	736 to 737	738 to 739	740
741 to 742	743 to 744	745 to 746	747
748 to 749	750 to 751	752 to 753	754
755 to 756	757 to 758	759 to 760	761

£100 Bonds			
12946 to 12983	12988 to 13070	13081 to 13092	13096 to 13097
13105 to 13135	13141 to 13165	13168 to 13180	13188 to 13193
13276 to 13320	13327 to 13446	13448 to 13461	13562 to 13569
13657 to 13692	13695 to 13715	13723 to 13727	13730 to 13731

On 15th October, 1979 there will become due and payable upon each Bond drawn for redemption the principal amount thereof, together with accrued interest to said date at the office of:-

S. G. WARBURG & CO. LTD.,  
30, Gresham Street, London, EC2P 2EB

or with one of the other paying agents named on the Bonds.

Interest will cease to accrue on the Bonds called for redemption on and after 15th October, 1979 and Bonds so presented for payment must have attached all coupons maturing after that date.

£1,700,000 nominal Bonds will remain outstanding after 15th October, 1979.

The following Bonds from earlier redemptions have not yet been presented for payment:-

1978			
£500 Bond No. 161			
1977			
£100 Bond Nos. 9760 9761 9762 10087			
1976			
£100 Bond Nos. 11598 12371 12372 12373			

30, Gresham Street, London, EC2P 2EB.

17th September, 1979

## LEGAL NOTICES

IN THE MATTER OF  
L. E. R. NAVARRO LIMITED  
AND IN THE MATTER OF  
THE COMPANIES ACT 1948

NOTICE IS HEREBY GIVEN that the creditors of the above-named company, which is being voluntarily wound up, are required, on or before the 15th day of October, 1979, to send in their full Christian and surnames, their addresses and descriptions, full particulars of their debts or claims, and the names and addresses of their Solicitors (if any), to the undersigned

KEITH DAVID GOODMAN, FCA.  
of 3/4 Benbow Street,  
London, W1A 3BA

the Liquidator of the said Company, and, if so required by notice in writing from the said Liquidator, are, personally or by their Solicitors, to come in and prove their debts or claims at such time and place as shall be specified in such notice, or in default thereof they will be excluded from the benefit of any distribution made before such debts are proved.

Dated this 6th day of September, 1979.

K. D. GOODMAN, Liquidator.

IN THE MATTER OF  
ALAN BURROW, JOHN LIVOCH  
(HARPENDEN) LIMITED  
AND IN THE MATTER OF  
THE COMPANIES ACT 1948

NOTICE IS HEREBY GIVEN that the creditors of the above-named company, which is being voluntarily wound up, are required, on or before the 15th day of October, 1979, to send in their full Christian and surnames, their addresses and descriptions, full particulars of their debts or claims, and the names and addresses of their Solicitors (if any), to the undersigned

MORRIS RAYMOND DORRINGTON  
of 4 Chancery Square,  
London EC1M 6EN

the Liquidator of the said Company, and, if so required by notice in writing from the said Liquidator, are, personally or by their Solicitors, to come in and prove their debts or claims at such time and place as shall be specified in such notice, or in default thereof they will be excluded from the benefit of any distribution made before such debts are proved.

Dated this 20th day of August, 1979.

K. D. GOODMAN, Liquidator.

IN THE MATTER OF  
SPORTCARE LIMITED  
AND IN THE MATTER OF  
THE COMPANIES ACT 1948

NOTICE IS HEREBY GIVEN that the creditors of the above-named company, which is being voluntarily wound up, are required, on or before the 15th day of October, 1979, to send in their full Christian and surnames, their addresses and descriptions, full particulars of their debts or claims, and the names and addresses of their Solicitors (if any), to the undersigned

MORRIS RAYMOND DORRINGTON  
of 4 Chancery Square,  
London EC1M 6EN

the Liquidator of the said Company, and, if so required by notice in writing from the said Liquidator, are, personally or by their Solicitors, to come in and prove their debts or claims at such time and place as shall be specified in such notice, or in default thereof they will be excluded from the benefit of any distribution made before such debts are proved.

Dated this 20th day of August, 1979

K. D. GOODMAN, Liquidator.

IN THE MATTER OF  
MONTAGUE JOYCE LIMITED  
AND IN THE MATTER OF  
THE COMPANIES ACT 1948

NOTICE IS HEREBY GIVEN that the creditors of the above-named company, which is being voluntarily wound up, are required, on or before the 15th day of October, 1979, to send in their full Christian and surnames, their addresses and descriptions, full particulars of their debts or claims, and the names and addresses of their Solicitors (if any), to the undersigned

KEITH DAVID GOODMAN FCA.  
of 3/4 Benbow Street,  
London W1A 3BA

the Liquidator of the said Company, and, if so required by notice in writing from the said Liquidator, are, personally or by their Solicitors, to come in and prove their debts or claims at such time and place as shall be specified in such notice, or in default thereof they will be excluded from the benefit of any distribution made before such debts are proved.

Dated this 20th day of September, 1979.

K. D. GOODMAN, Liquidator.

HARMONY GOLD MINING COMPANY  
Incorporated in the Republic of South Africa  
A Member of the Barlow Rand Group

DIVIDEND DECLARATION  
NOTICE IS HEREBY GIVEN that Dividend No. 43 of 35 cents per share has been declared in South African currency, as an interim dividend in respect of the year ending 30th June, 1980 payable to members registered in the books of the company at the close of business on 28th September, 1979. The register of members will be closed from 28th September to 5th October, 1979, inclusive, and dividends will be payable on or about 6th October, 1979.

The rate of exchange at which the dividend will be converted into United Kingdom currency for payment by the United Kingdom Registrar and Transfer Agents will be the rate of exchange prevailing on the date of payment of the dividend, namely, the rate of exchange prevailing on the date of the closing of the company's books on 28th September, 1979, on which foreign currency dealings are transacted. Where applicable, South African non-resident shareholders' tax of 10 per cent will be deducted from the dividend. The full conditions of payment of this dividend may be inspected at or obtained from the offices of the company in Johannesburg or in the United Kingdom. By Order of the Board RAND MINES, LIMITED  
per F. Sedwath  
Registered Office:  
Johannesburg 2001  
P.O. Box 2507  
Marshfield  
107  
Office of the Company in the United Kingdom:  
40 Watling Street,  
London EC1P 1AT  
United Kingdom Registrar and Transfer Agents:  
Charter Consolidated Limited,  
P.O. Box 152,  
Park Street,  
Ashford, Kent TN24 8EQ  
13th September, 1979.

## COMPANY NOTICES

## NOTICE OF RATE OF INTEREST

U.S.\$30,000,000

## SUMITOMO HEAVY INDUSTRIES, LTD.

(Incorporated with limited liability in Japan)

Guaranteed Floating Rate Notes Due 1984



Unconditionally guaranteed as to payment of principal and interest by

THE SUMITOMO BANK, LIMITED  
(Incorporated with limited liability in Japan)

In accordance with the provisions of the Notes and Agent Bank Agreement between Sumitomo Heavy Industries, Ltd., The Sumitomo Bank, Limited and Citibank, N.A., dated 5th September, 1978, notice is hereby given that the Rate of Interest for the initial three-month interest period has been fixed at 13 1/2% p.a. and that the interest payable on the relevant Interest Payment Date, 13th December, 1979, against Coupon No. 1 in respect of U.S.\$30,000,000 nominal amount of the Notes will be U.S.\$835.48 and has been computed on the actual number of days elapsed (81) divided by 360.

14th September, 1979.  
By: Citibank, N.A., London,  
Agent Bank

CITIBANK

## P.S.A. PEUGEOT-CITROEN

A French "société anonyme" governed by the Articles 118 through 180 of the French law of July 24, 1966.  
Capital: French Francs 861,837,130

Head Office: 75, avenue de la Grande Armée, Paris (France).  
Commercial Register: Paris 2784,646,798

## FIRST NOTICE TO HOLDERS OF BONDS 9 1/2% 1979-1987 OF FRENCH FRANCS 5,000

The bondholders of the International Loan 9 1/2% 1979-1987 issued by P.S.A. PEUGEOT-CITROEN are convened to an Ordinary General Meeting to be held at 75, avenue de la Grande Armée, Paris (France) on October 22, 1979 at 3 p.m., in order to consider the following agenda:

- Appointment of the bondholders permanent representatives, designation of the substitute representatives.
- Determination of the bondholders' representatives' capacities and of the remuneration given to the permanent representatives.

To permit the bondholders to attend or to be represented at this meeting, the bonds or their deposit receipts, must be deposited at least five days before the date fixed for the meeting, at the offices of the banks having participated in the placing of these bonds and from whom proxies or admission cards can be requested. This meeting shall be validly held if the holders of twenty-five per cent of the outstanding bonds entitled to vote are present in person or represented.

The "Directoire"

BUSINESSMAN'S DIARY  
UK TRADE FAIRS AND EXHIBITIONS

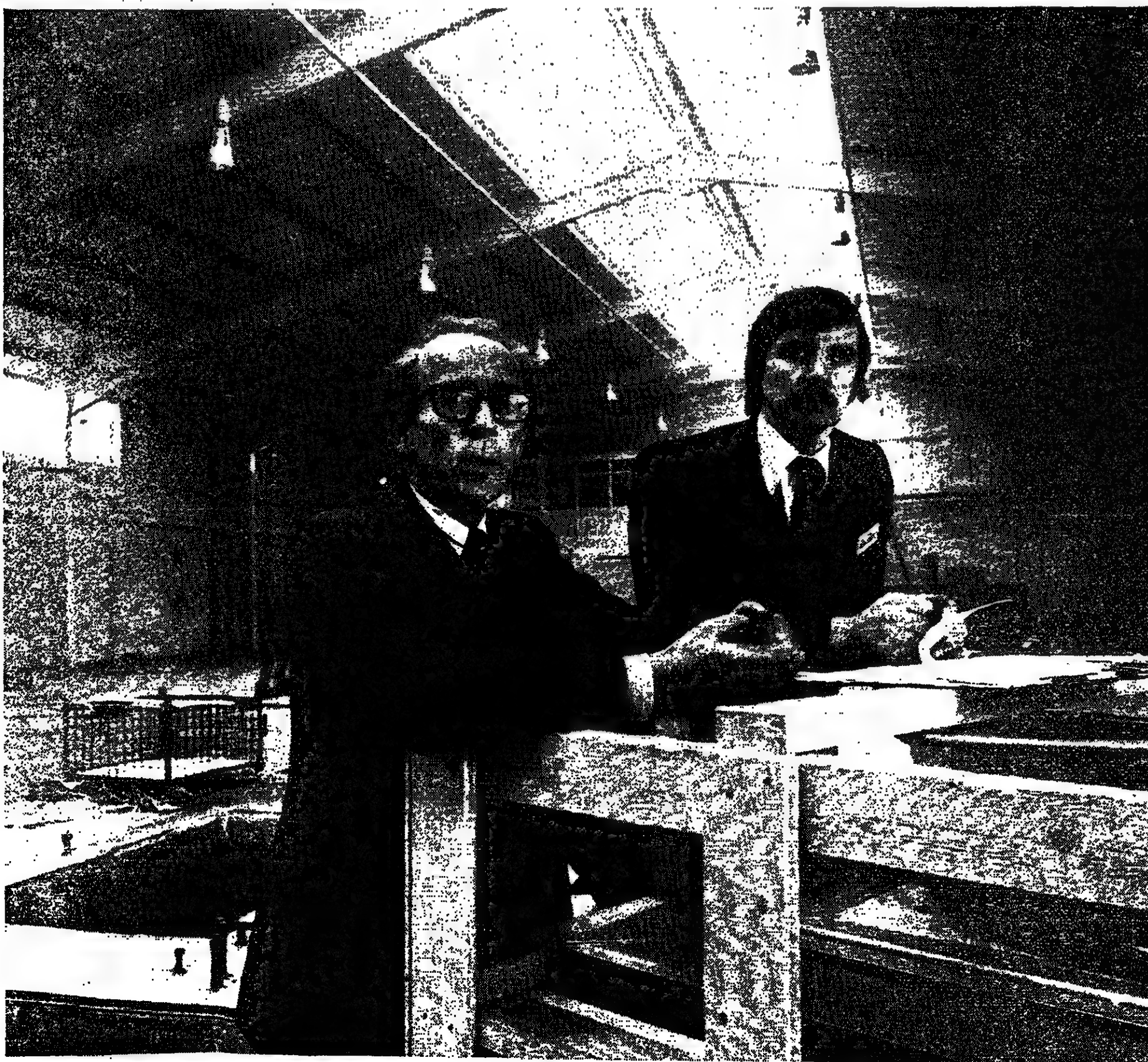
Date	Title	Venue
Current	Chelsea Antiques Fair (0727 56039) (until Sept. 23)	Chelsea Old Town Hall
Current	MALB 79—International Meanswear Fair (01-539 5041) (until Sept. 19)	Earls Court
Current	Filtertech/Dustex 79—2nd World Filtration Exhibition (01-238 0811) (until Sept. 20)	Olympia
Sept. 18-21	Firetech 79 International Fire Protection and Control Exhibition (01-637 2400)	Brighton Exbn. Centre
Sept. 19-20	International Exhibition of Styling Accessories (01-734 7471)	Russell Hotel, W1
Sept. 24-26	Weichtech 79 (01-686 5741)	Metropole Ex. Centre Brighton
Sept. 24-25	International Welding and Metal Fabrication Exhb. (021-705 6707)	National Exhibition Centre, Birmingham
Sept. 25-28	International Conference and Exhibition on Information Processing—Euro FIP (01-405 6233)	Wembley Conference Centre
Sept. 25-28	Business Efficiency and Equipment Exhibition (0272 31350)	Exhibition Centre, Bristol
Sept. 28-30	High Fidelity Autumn Exhibition (Radnage 2674)	Cunard Int. Hotel, London
Sept. 27-28	Interior Designers and Decorators Association Exhibition—DECOREX (01-242 6171)	Grosvenor House, London
Sept. 30-Oct. 3	Frozen Foods and Freezer Festival (01-353 4885)	West Centre Hotel, London
Sept. 30-Oct. 3	British International Footwear Fair (01-739 2071)	Olympia
Sept. 30-Oct. 3	International Sports and Leisure Exhibition—ISLE (01-734 9694)	National Exhibition Centre, Birmingham
Oct. 2-Oct. 4	Southern Floorcoverings Exhibition (0241 55423)	Metropole Ex. Centre Brighton
Oct. 3-4	Electrical Research Association Battery Exhibition (Leatherhead 264045)	Royal Garden Hotel, W
Oct. 3-4	London Bakers Exhibition (01-947 7781)	New Horticultural Hall
Oct. 6-9	Salon International (Hairdressing and Beauty) (01-261 3000)	Wembley Conf. Centre
Oct. 7-10	International Garden and Leisure Exhibition—GLEE (01-546 6757)	National Exhibition Centre, Birmingham

## OVERSEAS TRADE FAIRS AND EXHIBITIONS

Current	International Fair (until Sept. 23)	Ghent
Current	International Engineering Fair (01-275 0281) (until Sept. 20)	Brno
Current	International Autumn Fair (01-456 1951) (until Sept. 23)	Zagreb
Current	LIGAM—Furniture Trade Fair (until Sept. 19)	Brussels
Current	Clothing Fair (until Sept. 19)	Toronto
Current	Fall Gift Show (01-540 1101) (until Sept. 21)	Paris
Sept. 18-21	Int. Security, Safety and Protection of Mankind and Property Exbn. (01-456 1951)	Paris
Sept. 18-21	International Office Equipment Exbn.—SICOE (01-439 3984)	Tokyo
Sept. 21-23	International Packaging Show (01-734 9635)	Cologne
Sept. 25-28	Int. Trade Fair of Sports Goods, Camping Equipmt. and Garden Furniture—SPOGA (01-409 0556)	Hong Kong
Sept. 23-26	Industrial Equipment and Material Exhibition—INDEQUEX	Paris
Sept. 23-26	Hardware Trade Fair (01-439 3984)	Atlanta
Sept. 28-27	National Business Aircraft Association Convention and Exhibition	Stuttgart
Sept. 28-30	Research and Development Exhibition—INNOTEX 79 (01-238 0911)	Paris
Sept. 27-30	International Suppliers Fair for the Motor Industry—AUTOTERNIK	Copenhagen
Sept. 28-Oct. 5	International Exhibition of Motor Maintenance and Car Accessories (01-439 3984)	Paris
Sept. 28-Oct. 7	International Motor Cycle and Cycle Show	Metz
Sept. 29-Oct. 3	International Autumn Trade Fair	Dublin
Sept. 30-Oct. 3	Irish Fashion Industry Fair (Dublin 763385)	Copenhagen
Sept. 30-Oct. 5	International Fair for Machine Tools and Tools (01-540 1101)	Tokyo
Oct. 1-5	Chemical Plant Engineering Exhibition (01-486 1951)	Hanover
Oct. 2-11	International Textile Machinery Exhibition (01-431 2181)	Hong Kong
Oct. 3-5	Hong Kong Toy and Gift Fair (01-930 7955)	Osaka
Oct. 5-10	Electronics Show (01-734 9635)	

## BUSINESS AND MANAGEMENT CONFERENCES

Current	ICMA: Decision Making Techniques for the Management Accountant (01-537 2311) (until Sept. 21)	Loughborough
Sept. 25	Planned Savings: Personal Finance for the Expatriate (01-231 3546)	Inn on the Park, W1
Sept. 26-29	Institute of Purchasing and Supply: National Conference—Enterprise, the Corporate Role of Purchasing and Supply Management (Ascot 23711)	Sheffield
Sept. 27	HS—Conference Studies: Captive Pension Funds (01-453 3382)	Royal Lancaster Hotel, W2
Sept. 27-28	AMR International: The 1979 International Conference on Industrial Leasing (01-282 2732)	London Press Centre
Sept. 28	CCC: The Interbank and London Short Term Money Markets (01-222 6382)	Inn on the Park, W1
Sept. 30-Dec. 14	BTSC: General Management Course (04882 5444)	Heaton Mount, Bradford
Oct. 1	BIM: Energy Saving with Microprocessors (01-405 3455)	Woking, Surrey
		Europa Hotel, W1



## Plan with electricity for real efficiency

As Engineering Services Manager of Huddersfield-based Brook Motors Limited (part of the Hawker Siddeley Group), Jack Goodman has to turn company plans into positive results. He's pictured here beside Yorkshire Electricity Board's Ian Flint, with an electric furnace ready for installation in their new diecasting department.

The launchpad for a ten-year plan to streamline production of their range of electric motors, the Brook new diecasting plant will be all-electric. Jack Goodman explains: "After discussions with our Electricity Board we adopted one electric melting furnace on trial. Energy cost comparisons quickly established its advantages - and it gave us consistently better quality castings too." So pleased is the company with results, that they now plan to go electric in their new rotor casting shop pictured here.

They also investigated, and are now using, electric die pre-heaters. Indeed, from the battery-powered lift trucks providing smooth, efficient materials handling, to spark erosion machines which form their tools with unmatched precision, electricity is central to Brook manufacturing strategy.

It's an investment which is paying off for management and operatives alike - "Electricity has given us better product quality and a better environment... it's much cleaner and easier to control".

To find out how electricity can increase your company's efficiency and profitability, contact an Industrial Sales Engineer at your Electricity Board.



Significant fuel cost savings have been established with electric melting of aluminium.

One of the electric die pre-heaters at Brook Motors.

## INVESTELECTRIC

The Electricity Council, England and Wales. 020 221274

إهكذا ان الذ حل



# NCR means computer systems that can grow with you.

You buy a computer, and very soon you're enjoying the increased efficiency it brings you. So much so, that you quickly outgrow your computer's capabilities.

It's a problem that NCR knows all about. Which is why NCR computer systems are designed to grow with you. Each one is compatible with all the others in the range, allowing you to upgrade to any level of computer technology—as and when you wish.

This capability extends to both the software and the hardware. NCR's software packages comprise a comprehensive library of flexible, ready-made programs that are fully interactive.

NCR means computer systems which allow for natural expansion.

**NCR**

NCR means computers.



## INTERNATIONAL BONDS

## Currency fears loom large

ONCE AGAIN fears of currency unrest are overshadowing the international bond markets, and becoming the main element of uncertainty in the investment climate.

In most major financial centres last week, investors appeared to be content to sit on their cash or gold positions rather than commit funds to fixed-interest bonds.

Even in Germany, where the Deutschmark has been appreciating on speculation against a possible revaluation against its European neighbours, the DM bond markets failed to attract much support.

Funds flowing into the DM were being lodged in high-yielding short-term deposits or near-term money market instruments, with reports that some low-coupon Euro-DM bonds were being liquidated.

Indeed it became apparent during the week that the Bundesbank had stepped up its efforts to control the ability of German banks and their foreign subsidiaries to offer short-term investments in Deutsche-Marks to international clients.

The ban on the issue of DM paper by the German banks in Luxembourg has been extended, and it seems that the issue of Schuldscheine to foreigners may now be restricted as well.

credit conditions imposed by the Bundesbank to combat inflation. Short-term rates of up to 8 per cent were being posted in Germany last week.

Because there had been such strong investor interest in the issue, Deutsche Bank priced the DM 150m City of Kobe 7½ per cent 10-year bonds at an aggressive 100¼. But the issue subsequently drifted down to around 99 in secondary trading, sharing in a general softening in the prices of DM issues.

The forthcoming DM 125m 10-year bonds for the Council of Europe carry an indicated 7½ per cent coupon, illustrating the tightening conditions for the DM market on which the German banking sub-committee will have to ponder at its meeting to decide its monthly calendar on September 20.

Shaken by Chase Manhattan's introduction of a 13 per cent prime rate, a technical rally in Eurodollar bond prices was quickly erased last week. Some institutional nibbling in quality bonds, where recent price falls had created yields in excess of 10½ per cent, and professional dealing activity briefly lifted prices about ½ point.

Eurobonds do not yet appear to have hit their low point. The accompanying chart, based on Kidder Peabody data, shows the erosion of capital which has taken place in the market over

the last year. The average discount from par on all outstanding issues has increased from 2.34 per cent in July 1978 to 6.34 per cent last month.

With the straight dollar new issue sector firmly closed, the floating rate note continues

that other supranationals, including those in the EEC, will now accept the floating rate concept for their financings.

However, many such agencies, including the Eurobond market's most regular borrower, the European Investment Bank, themselves on-lend on a fixed-

per cent above for the remaining five years. The minimum coupon is 5½ per cent, and the issue price par.

The notes will be placed privately by Dean Witter, Bank of America, Banque Arabe et Internationale d'Investissement, Banque Nationale de Paris and Banque Bruxelles Lambert.

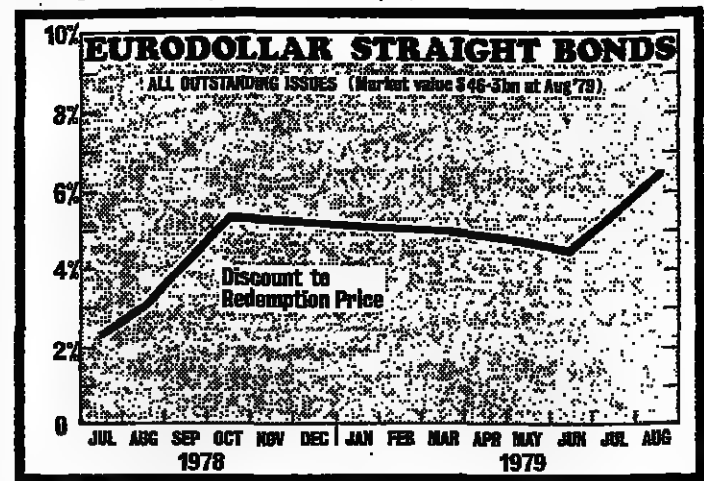
Fiat Finance Corp is offering \$100m of FRNs, with a fixed-rate option. The 12-year notes carry interest of 1 per cent above six-month Libor rate for the first five years and 1 over thereafter. Investors can switch into 8 per cent notes between 1980-1984, according to lead manager Credit Lyonnais.

Mitsubishi is the latest Japanese corporation in the convertible dollar market sector, planning a \$50m 15-year issue with an indicated 7 per cent coupon.

Mitsubishi has the option of redemption after October, 1984 or from 1982 if its stock price exceeds 150 per cent of the Eurobonds' conversion price at that time.

In turn, investors have the option of redemption after five years at a price to provide an annual yield of 10 per cent.

Last week's steep slide in sterling to a rate of \$2.1650 left investors looking for a point lower, with one house reportedly lightening its trading books substantially.



to make the running. The markets were intrigued last week by news that Eurofima, the inter-governmental agency for financing European railways, is floating a \$40m 10-year FRN as a private placement.

Eurofima is believed to be the first of Europe's international agencies to tap the FRN market in recent years, arousing talk

rate basis. This would appear to rule out a widespread move to FRNs, although the EIB is understood to be still studying this option.

The Eurofima notes will carry semi-annual interest at a level ½ per cent over the mean of the bid and offer rates for six-month Eurodollar interbank rates for the first five years, and

By WILLIAM HALL

## INTERNATIONAL BANKING

## A U.S. regional bank heads home

CITY NATIONAL Bank of Detroit has been in London for over a decade so its decision, confirmed last week, to give up its coveted authorised bank status and return home was obviously not taken lightly.

With parent bank deposits of less than \$1bn, its experience is a useful case study of the financial pressures now facing some of the smaller regional U.S. banks operating in the City.

The bulk of its costs are denominated in sterling and its revenues mostly in dollars so it has been pinched by the recent rise in sterling. More important, however, has been the squeeze on net interest margins and the lengthening of maturities which it cites as the main reason why it has cut its foreign loan portfolio from \$162m at the

end of 1978 to \$113m at the end of 1979.

Although City National Bank is not saying how much its London branch cost to operate, it is possible to arrive at a general figure. One U.S. regional bank with 40 staff, estimated that it cost \$2.5m per annum to run its London branch while a smaller operation with 14 staff said that its expenses were running at close to \$0.5m per annum excluding the cost of two American staff, which could add on a further \$100,000 each.

Noel Alexander Associates, which specialises in helping banks establish in London, estimates that the minimum size for a London branch is 12 to 15 staff and 3,000 sq ft of office space. This could cost the equivalent of around \$0.6m at current exchange rates. However, a medium size branch is more

normal and with a staff of approximately 30 people and 5,000 sq ft of office accommodation, the annual bill will be close to \$1.2m.

## NEW BANK FOR LUXEMBOURG

Manufacturers Hanover Trust will establish a subsidiary in Luxembourg, initially with the minimum paid up capital of Luxfr 250m (\$9m). Starting with a staff of 15, the bank's aim will be to operate in the Luxembourg money market, particularly the Euro-DM sector, and to participate in Luxembourg loan syndicates. The pending double-taxation agreement between Luxembourg and Brazil is also a significant incentive for MH with its loan involvement in Brazil

To cover costs of this magnitude a London branch needs a margin of 1 per cent on a portfolio of \$75m of assets before

thinking about provisions for loan losses or return on capital employed. Given the current squeeze on margins this looks a fond hope, so that bank's total

assets will almost certainly have to be higher, especially bearing in mind the fact that money market operations are far less

profitable than straight lending.

In the case of City National Bank some 35 per cent of its foreign loan portfolio consisted of loans to banks, 23 per cent to Government related institutions and 41 per cent to industrial and commercial customers.

With a portfolio just in excess of \$100m, and probably earning net spreads of less than 1 per cent, it is not hard to see why City National has decided to close its London branch.

"At the end of the day," says Mr. Carl Fredericks, City National Bank's London vice-president, "we are a mid-Western bank serving mid-Western customers. We can service them just as well from our home base and our Cayman Isles branch."

## CURRENT INTERNATIONAL BOND ISSUES

Borrower	Amount m	Maturity	Av. life years	Coupon %	Price	Lead manager	Offer yield %
<b>U.S. DOLLARS</b>							
U.S. Imperial Oil of Canada	250	2009	21	9½	99.806	Salomon Bros. Wood Gundy	10.00
U.S. ICB	100	1987	8	10½	99.60	Lehman Bros. Kuhn Loeb, First Bos., Mer. Lynch	10.46
U.S. ICB	100	1999	15.05	10.15	99.60	Lehman Bros. Kuhn Loeb, First Bos., Mer. Lynch	10.46
U.S. ICB	300	2009	30	9½	99½	Salomon Bros.	10.17
U.S. ICB	30	1994	—	7	100	Yamachi Int'l, CSFB	7.8
U.S. ICB	30	1987	8	6½	100	Soc. Générale, EBC	6.619
U.S. ICB	30	1994	—	7½	100	Kleinwort Benson	7.38
U.S. ICB	100	1991	—	8½	100	Credit Lyonnais	—
U.S. ICB	40	1989	8½	5½	100	Dean Witter Reynolds	5.376
<b>D-MARKS</b>							
U.S. ICB	200	1987	8	7½	100	Commerzbank	7.125
U.S. ICB	150	1989	10	7½	100½	Deutsche Bank	7.99
U.S. ICB	150	1986	7	7½	100	Deutsche Bank	7.50
U.S. ICB	150	1994	15	8	100	Bay. Landesbank	8.0
U.S. ICB	50	1989	10	7½	99½	Société Générale	7.81
U.S. ICB	125	1989	8	7½	100	BHP Bank	7.375
<b>SWISS FRANCES</b>							
U.S. ICB	150	1989	n.a.	4½	100½	Swiss Bank Corp.	4.315
U.S. ICB	45	1991	n.a.	4½	99½	Hofmann & Co.	4.56
U.S. ICB	100	1989	n.a.	4½	100	Swiss Bank Corp.	4.25
U.S. ICB	100	1991	n.a.	4½	99	Union Bank of Swiss	4.25
U.S. ICB	60	1991	n.a.	4½	99	Union Bank of Swiss	4.61
U.S. ICB	30	1985	—	4½	100	Union Bank of Swiss	4.75
U.S. ICB	30	1986	—	4½	100	Union Bank of Swiss	4.50
<b>GUILLERMO</b>							
U.S. ICB	100	1984	5	8½	99½	ARN	8.38
<b>LUXEMBOURG FRANCES</b>							
U.S. ICB	500	1987	8	8½	99½	Banking Gen. du Luxembourg	8.79
<b>KUWAITI DINARS</b>							
U.S. ICB	7	1989	7.8	7½	99½	KFIC/KIC	8.11
U.S. ICB	4	1989	7.8	8	99½	KFIC/KIC	8.11

\* Not yet priced. † Final terms. \*\* Placement. † Floating rate note. ‡ Minimum. § Convertible. ¶ Registered with U.S. Securities and Exchange Commission. † Futures trade. † Options trade. † Options trade. † Options trade.

## U.S. BONDS

By JOHN WYLES

## Problems for the Fed

AFTER the steep increases in U.S. money market rates of the past few weeks it is hardly surprising that the U.S. bond markets will be opening for business today with some trepidation. Over the next few days the particular focus of attention will be the Federal funds market because of the meeting tomorrow of the Federal Reserve Board's Open Market Committee. Since the Committee last met to chart interest rate strategy in August, the Fed funds target has been pushed up by about 80 basis points to around 11½ per cent. The impact on other short term rates has been dramatic, with increases substantially outstripping the rise in the funds rate.

During the past week, for example, Treasury Bill rates have comfortably cruised past 1974 peaks to establish new benchmarks. Thus we have seen a record discount rate on a three month bill of 10.531 per

cent, 10.294 per cent for a six month bill and 9.53 per cent for a one year bill. These compared with previous records of 9.908 per cent, 9.830 per cent and 9.605 per cent.

At the same time, the commercial banks' prime rate climbed to yet another record, now 13 per cent last week. Only long term bonds remain out of step, with long prime issues within 30 basis points of their 1974 peaks while lower grades still lag by up to 200 basis points. Dr. Henry Kaufman, of Salomon Brothers, among others believes that corporate rates will establish new highs before rates start to come down.

But as is frequently pointed out, everything depends on the state of the economy and the strength of credit demands in the coming months. Bond prices may well reflect some disappointment this week at the success of General Motors and the United Auto workers in

reaching an agreement without a strike. The absence of a strike and the consequent drag on the economy is clearly a factor the Open Market Committee will take into account tomorrow as it reviews its progress, or lack of it, in reducing the money supply and credit demand.

Last Thursday bond prices actually strengthened a little after the Fed published a bill of a \$2.7bn increase in M1 because unofficial market estimates had suggested something higher. But the increase meant that monetary growth is still way above target having jumped 10.1 per cent for M1 and 13 per cent for M2 during the past quarter.

Notwithstanding the interest rate backdrop, the bond market has a creditable job last week in absorbing one of the heaviest weekly new issue calendars for some years. No fewer than \$1.3bn of corporate bonds were slated for sale,

## FT INTERNATIONAL BOND SERVICE

U.S. DOLLAR STRAIGHTS	Issued	Bid	Offer	Change on day week	Yield
Aleco Australia 10 88	80	98½	99½	+0.04	10.62
Aleco Australia 10 88	80	98½	99½	+0.04	10.62
Aleco Australia 10 88	80	98½	99½	+0.04	10.62
Aleco Australia 10 88	80	98½	99½	+0.04	10.62
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Aleco Australia 10 88	80	98½	99½	+0.04	10.62
Aleco Australia 10 88	80	98½	99½	+0.04	10.62
Aleco Australia 10 88	80	98½	99½	+0.04	10.62

YEN STRAIGHTS	Issued	Bid	Offer	Change on day week	Yield
Australia 5.5 83	30	92½	94½	+0.04	7.37
Australia 5.5 83	30	92½	94½	+0.04	7.37
Australia 5.5 83	30	92½	94½	+0.04	7.37
Australia 5.5 83	30	92½	94½	+0.04	7.37
Australia 5.5 83	30	92½	94½	+0.04	7.37
Australia 5.5 83	30	92½	94½	+0.04	7.37
Australia 5.5 83	30	92½	94½	+0.04	7.37
Australia 5.5 83	30	92½	94½	+0.04	7.37
Australia 5.5 83	30	92½	94½	+0.04	7.37
Australia 5.5 83	30	92½	94½	+0.04	7.37

BONDS/TRADE INDEX AND YIELD	Medium term	Long term
Sept. 14... 83.67	8.31	8.32
Sept. 7... 84.07	8.16	8.30
High '79... 85.75	(1/2)	8.38 (30/1)
Low '79... 83.07	(1/4)	8.25 (12/8)

DEUTSCHE MARK STRAIGHTS	Issued	Bid	Offer	Change on day week	Yield
Argentine 5.5 88	100	98½	99½	+0.04	7.47
Argentine 5.5 88	100	98½	99½	+0.04	7.47
Argentine 5.5 88	100	98½	99½	+0.04	7.47
Argentine 5.5 88	100	98½	99½	+0.04	7.47
Argentine 5.5 88	100	98½	99½	+0.04	7.47
Argentine 5.5 88	100	98½	99½	+0.04	7.47
Argentine 5.5 88	100	98½	99½	+0.04	7.47
Argentine 5.5 88	100	98½	99½	+0.04	7.47
Argentine 5.5 88	100	98½	99½	+0.04	7.47
Argentine 5.5 88	100	98½	99½	+0.04	7.47

OTHER STRAIGHTS	Issued	Bid	Offer	Change on day week	Yield
Nordic 1. 84 SDR	20	97	98½	+0.04	8.08
Nordic 1. 84 SDR	20	97	98½	+0.04	8.08
Nordic 1. 84 SDR	20	97	98½	+0.04	8.08
Nordic 1. 84 SDR	20	97	98½	+0.04	8.08
Nordic 1. 84 SDR	20	97	98½	+0.04	8.08
Nordic 1. 84 SDR	20	97	98½	+0.04	8.08
Nordic 1. 84 SDR	20	97	98½	+0.04	8.08
Nordic 1. 84 SDR	20	97	98½	+0.04	8.08
Nordic 1. 84 SDR	20	97	98½	+0.04	8.08
Nordic 1. 84 SDR	20	97	98½	+0.04	8.08

EUROBOND TURNOVER	U.S. \$ bonds	Code	European
Last week	880.2	1,325.6	
Previous week	863.5	1,389.4	
Last week	223.8	377.3	
Previous week	183.7	322.9	

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Closing prices on September 14

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## FINANCIAL TIMES SURVEY

Monday, 17 September 1979

## Computer Services

There are now more than 3,000 computer services companies in Europe, and the industry in the UK is playing a full part in developing what has become a major force. Nevertheless, there are some complex problems to be solved and there is clearly a need for more Government awareness of the difficulties facing this rapidly growing industry.

If you read through  
this supplement  
you'll realise why we're  
on the front page.

Take a deep breath and press on. Go on; it's all there. Hardware, software, international networks, world time sharing.

Everything you'll ever need to know if it's vital that you understand the computer.

But do you really need to?

Frankly, at Comshare, we believe that it's not what we can tell you about the computer business, it's what we can tell you about your business that's important. (Or your profession for that matter.)

How can computers be of help in business and industry?

Or banking, central government and local authorities?

Well, at Comshare, we believe that it's not enough for our people to be fluent in computer language.

They also have to be able to talk sense to you about your business.

So, over the years, although we've invested heavily in computers of the most sophisticated variety (since February 1977 alone we've spent over £4½ million) we've spent yet more on

employing something that's far more important.

Professionals of the most sophisticated variety.

Look at each one of our specialised areas of activity.

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Services to both central and local government.

Materials management for industry.

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They fully understand computers in relation to a given task. A given task that they also fully understand.

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any one of our many, locally based, Comshare offices.

Already, over a thousand companies use us every month.

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However, maybe it isn't so surprising when you consider our level of specialisation.

It's this degree of specialisation which has got us where we are.

The most consistently successful computer services bureau in Europe.

With a world-wide timesharing network.

And it is probably why we are where we are right now.

On the front page of this supplement.

If you'd like to know more call Mike Tollit at Comshare Limited, 32/34 Great Peter Street, London SW1P 2DB. Tel 01-222 5665.

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## COMPUTER SERVICES II

# Growing sector becomes a key industrial force

DURING THE run-up to the recent general election, those political figures who, it was anticipated, would have to make policy in Britain's electronics industry, heard many presentations from senior persons operating within the service bureau or software and systems groups, on the industry and its importance.

Since the election and under the new administration, not a murmur has been heard and it is almost as if the computing services industry has ceased to exist so far as the Government is concerned. Yet there can be few more important undertakings in the country, since the combined turnover of the companies grouped under the banner of the Computing Services Association can com-

pare honourably with the total annual sales of computing equipment in Britain—and it should be remembered that such sales produce a huge import deficit.

Services growth is at a rate of about 25 per cent, better far than for any other industrial sector outside information handling, which alone should call for some official interest. But the industry has some difficult problems to solve, several of which it cannot handle by itself since political decisions at international level, either within the European Economic Community or generally, are involved. And the most difficult of these is trans-national data flow, as we shall see later.

Clearly, there is need for Government awareness of the

problems and for a continuing dialogue, particularly after the years of hard work put in by CSA officers—with many other tasks on their hands—to establish this dialogue with the preceding government.

## Booming

Be that as it may, the industry is booming and in the words of the director general of the Computer Services Association, Alan Benjamin, it is becoming a "force in Europe" after growing at 20 per cent companies during the past five years. Indeed, it can be considered a major industrial force, though too many still consider it to be much less important than the computing equipment manufacturing side.

But, Benjamin points out, manufacturing is so heavily dominated by groups controlled from outside Europe there is little hope that the area will ever come to control its own destinies in machine technology. Not so in services. This industry by its nature is "probably" in fact, expertise such as software and systems development constitutes the heaviest charge on the processing service companies' own budgets since, according to Adapso, machinery has now dropped to 16 per cent of a typical service unit's costs.

This is, of course, partly due to the fact that a service organisation will tune up its processors till they are running in a way that sometimes amazes and often worries the makers.

At the same time, the bureaux operate their equipment for much longer than the average user and while this practice of running the machines into the ground should make suppliers of equipment rather indifferent as to where bureaux buy, it is not so in practice—witness the willingness of Honeywell to build a number of obsolete sigma processors for use by Comshare!

Although this has never been admitted, it is my feeling that equipment manufacturers have learned and can learn so much from the service companies that

of great importance in these figures is that software accounts for 10 per cent—Britain is credited with being the world's most important centre for software innovation—and that software in the U.S. is growing faster than the other services sectors at 27 per cent.

In fact, expertise such as software and systems development constitutes the heaviest charge on the processing service companies' own budgets since, according to Adapso, machinery has now dropped to 16 per cent of a typical service unit's costs.

Turning to Britain, growth (as indicated by figures compiled from responses to Department of Industry questionnaires) is now around 25 per cent, well ahead of the U.S. and Europe. This year, total turnover for respondents representing about 90 per cent of physical services and perhaps 70 per cent of consultancy should go well over the £400m mark, the inference being that we already have a "billion dollar industry." The 1978 total was £332m compared with £265m a year earlier.

There has, of course, been a great deal of argument in the past about the way in which service organisations which are part of big manufacturing companies do their accounting—though senior staff from such groups have often told me that

COMPUTER SERVICES: BILLINGS TO ALL CLIENTS								
For work done—figures £000 (current prices)								
Heading	1971	1972	1973	1974	1975	1976	1977	1978
Computer processing	40,190	46,357	56,923	73,506	102,944	118,818	132,840	163,250
Professional services:								
(a) Systems	13,971	16,434	22,678	25,953	29,792	51,105	65,097	73,782
(b) Consultancy	4,788	5,824	7,357	9,849	12,108	24,445	39,656	43,735
Data preparation	6,643	7,400	8,324	9,750	11,150	4,921	4,433	4,806
Other billings	2,459	2,598	3,776	5,923	6,882	19,587	23,567	31,684
Unclassified	1,207	1,071	4,491	3,622	1,474	2,244	3,844	8,264
Total	69,238	79,684	104,049	128,606	184,348	220,700	265,431	332,071

## BILLINGS BY CLIENTELE

(£000, current prices)

Heading	1971	1972	1973	1974	1975	1976	1977	1978
UK clients:								
(a) Public services	7,670	11,116	13,940	15,182	18,393	30,261	33,088	41,319
(b) Others	37,187	40,186	51,418	63,664	82,419	113,173	138,623	180,460
Foreign clients	2,482	3,877	4,767	5,664	7,562	10,582	13,582	19,509
Other computer services	822	866	1,034	796				
Parents/associates	20,206	23,316	32,988	43,300	55,974	66,704	79,138	90,793
Unclassified	861	323	2					
Total	69,238	79,684	104,049	128,606	184,348	220,700	265,431	332,071
Of which net outside billings	49,032	56,368	71,961	85,306	108,374	133,996	186,273	241,238

it is not in their real interest to alienate them as customers.

Turning to Britain, growth (as indicated by figures compiled from responses to Department of Industry questionnaires) is now around 25 per cent, well ahead of the U.S. and Europe. This year, total turnover for respondents representing about 90 per cent of physical services and perhaps 70 per cent of consultancy should go well over the £400m mark, the inference being that we already have a "billion dollar industry." The 1978 total was £332m compared with £265m a year earlier.

There has, of course, been a great deal of argument in the past about the way in which service organisations which are part of big manufacturing companies do their accounting—though senior staff from such groups have often told me that

they certainly do not have a "captive market" in the main company and have to compete for all they get from the latter. Be that as it may, billings for outside work grew more quickly in 1978, by 29 per cent to £241m.

Britain is in a strategic position so far as the big U.S.-based networks are concerned, and frequently is used as a bridgehead into Europe. The history of mergers and acquisitions is such, however, that there remains only one completely independent bureau service house (CMG), though there are several independent software specialists, the other companies being either associates of large industrial groups or U.S. advanced bases.

Nevertheless, the Computer Services Association, after a painful and protracted gesta-

tion, has earned enough respect for the Department of Industry to entrust to it the study of an important new industry—office electronics—with a view to establishing it so strongly in Britain that it cannot be swept away by a flood of imports.

CSA is influential in Europe and the parallel organisation—ECISA—speaking for eleven countries, can talk on an equal footing with the emergent supra-national groups in Brussels and elsewhere.

Is the day coming when joint action by ECISA/Adapso on manufacturers will be a commonplace? That is an interesting question now that support under U.S. control of general purpose, and mini machines has risen close to the \$300m level.

Ted Schroeters



City Computer Systems, London, have reduced the number of terminals which clutter dealers' desks—by modifying a Sony 9 in. colour television by the addition of teletext decoding facilities. A salesman in the gilt operations room, (above), at Laurie Milbank, has access to a wide range of information, including the in-house CCS computer system, yet he needs to cope with only two terminals

## New technology helps to reduce costs

FIVE YEARS or so ago, when the mini-makers were threatening to sweep all before them, the watchword in the burning U.S. industry was the familiar "if you can't beat 'em, join 'em!" Thus, several service companies in Britain began to buy and install various types of mini-computers in user premises, operating as slaves to the main machines at the service centre. Centre-File, part of the NatWest empire was probably the first in this area.

Power of the new minis has been increasing by leaps and bounds and anyone at Prime of Perkin-Elmer will now tell you that their latest machines are more than a match for a whole series of mainline models costing five to 10 times more.

Meanwhile, the advent of microprocessors is helping mini-makers to reduce their prices and there is further pressure on those bureaux who have not yet done so to propose minis or micro-based systems to their customers. This pressure has in some cases, resulted in price cutting action which is hardly wise in view of the rising cost of software and of people—always a major services industry overhead. Mini and micro promoters are not having it all their own way, however.

In the eyes of some consultants most of the small business computer systems in the hands of the average user are unsuccessful, that is compared with what a properly operated system could be doing. This stems from over-eagerness on the part of the neophyte to try to do everything on his new system, including those jobs definitely not suited for automation.

At the same time, the mini tends to be more vulnerable to interference for criminal ends partly because by definition it is more difficult to provide the security interlocks available with the large machines and their retinues of operating staff.

Limiting access to the mini also in America is what happens following the considerable delay of six to nine months in deliveries of IBM's System 38 equipment. Some customers are pleased because of slower business conditions, others will face difficulties. They will undoubtedly be relying on bureaux to take up any urgent processing needs their current equipment cannot meet. Orders world-wide are put at 30,000 systems and whatever the outcome for IBM and its competitors, there clearly could be a good deal of benefit to the service groups.

Some bureaux specialise in turnkey operations where the ultimate user does not wish to become involved in all the complexities of selecting a machine, developing the system and training staff. The main problem here is the end-user frequently fails to specify exactly what he will want his future system to do and the outcome will normally be a compromise unless.

Whatever happens here, it is an area that the service industries have to watch very closely if only because of the sweeping claims made for the new generation of minis. Installation of minis and other forms of intelligent terminals on users premises by U.S. operators is being carried out by just over half the companies involved and at mid-year, 2,000 or so machines had been placed on site and connected into the mainframes and more than 5,000 are expected by end-1979. But how long this will continue, or whether the trend will be reversed is hard to say since operators have not made up their minds whether provision of maintenance and other services to mini-users will continue profitable.

The big question being posed

of course, the end-user agrees to take from the vendor what his business really requires, leaving the company to undertake any other step in the vendor's hands. Sometimes, this will leave the user with surplus power the vendor may wish.

An interesting trend is distributed computing is the move, by ADP Network Services, among others, to install at larger user centres machines (such as the DEC 2020) able to support 32 time-sharing users. Added to this equipment are a pair of processors, one of which allows the client to communicate with his own equipment from any point on the ADP net in the U.S., the UK and Europe. The other links the local machine to one of the three ADP central computer locations. This helps to solve problems of preventive maintenance and diagnostics while taking care of practically all operational tasks.

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CONTINUED ON NEXT PAGE

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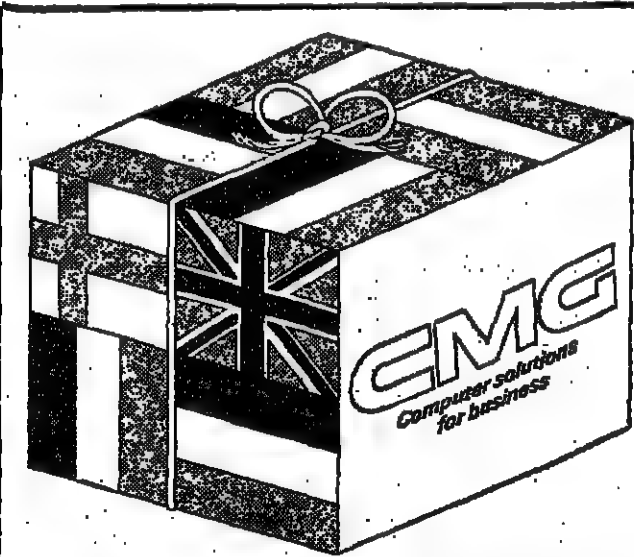
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## COMPUTER SERVICES III

## Concern over use of sensitive data

A HANDFUL of governments—that of Canada, in particular—are becoming increasingly concerned at the amount of vital information, captured within their countries on every aspect of business and economic life, and then transmitted to a series of vast computerised databases in America. There it is used for processing and further application in solving problems of companies and other organisations in the countries where this data originates.

Some of the concern stems from the different approaches to privacy adopted in the various countries. Much more is beginning to flow from the realisation that where heavy use is made of an extensive foreign database equipped with powerful manipulation software, the users are spending large sums on improving their own services, but are falling progressively further behind in high level processing knowhow.

One is dealing here with a much greater problem than that presented by a lack of, say, 5,000 expert jobs in Britain, multiplied by a factor of between eight and 10 for the whole of

Europe. American estimates show that at the moment, half of that country's GNP comes from information services and/or technology and this figure is growing. As indicated elsewhere, computer hardware alone earned \$30bn for the U.S. last year. Probably half the \$54bn revenues of the services industries in Europe this year will go to subsidiaries of large U.S. groups.

Far less than that will be remitted to parent companies in the U.S. because of the various arrangements between parent and subsidiary and the latter's local sponsoring groups where, as sometimes happens, there is joint ownership with a major national company.

This is not a criticism of the way in which the big networks operate. It is intended to point to serious concern in America that many countries may follow the line taken by some Canadian provinces to prevent credit information from going outside their territorial jurisdiction.

The problem is all the more worrying as greater reliance is placed by governments and

industries all over the world on easy access to large information stores. And seen from the U.S. growing "foreign" resentment and indeed overt action is not along the lines of a trade war but a counter-revolution to the information revolution.

Many countries which need the data held in U.S. centres seem to fear "electronic colonisation" and that the constant flow of data from such centres could undermine their national status through insidious propaganda.

Most of the European countries are raising barriers to the transfer of sensitive personal data and some American observers feel that there may come a time when data banks may have to move to "data havens" where no transmits exist to what can be stored or transmitted.

Several of the major international operators of information processing networks including Honeywell/GE and CDC have drawn some of the critics' teeth by establishing major data centres for their world networks inside Europe.

But it is a fact that several new large networks are being planned by common carriers to incorporate a large degree of processing.

Though there will undoubtedly be head-on conflict between U.S. carriers and manufacturers it seems likely that the FCC and other U.S. regulatory bodies will still take more heed of the gospel of free enterprise than of the many warnings now being uttered in America on trans-border data flow.

The most recent call to take heed of what is happening, particularly in Europe, came at a meeting in Denver of auditors linked with the industry. A speaker for Computer Resource Controls pointed out the danger that indifference in the U.S. could lead to other countries insisting that databases be localised. Eric J. Novotney, a security and privacy expert with that group, indicated that in France, for instance, a recent government investigation had shown that a U.S. group based in Cambridge, Massachusetts, held more organised

economic information on France than the French Government itself.

## Problems

It looks as if the problem is being solved at one end while being added to at the other. Now some of the large U.S. banks are joining in, to the great disgust of Adapso.

And over the whole scene looms the shadow of IBM's Satellite Business System, together with comparable services planned by Xerox and Sperry Univac, among others. These are threat to existing large networks and to the very existence of hardware companies unable to compete in the same league. However fast the Europeans may stumble ahead, anything on these lines is unlikely to take shape as a European venture for at least five years.

This is despite the efforts being made individually and jointly by European nations on such schemes as Germany's electronic telex, the Nordic Data Network, the packet-switched network CTNE in Spain, Transpac in France and Euronet.

Facing these ventures are Tymnet, Telenet (Arpa), Compak (ITT) and the Bell value added network.

It would be a pity if, after all the great intellectual and technical effort put into the development of all these methods to improve communication, the result should be further division between the more advanced countries.

The large groups have accumulated priceless expertise on the running of high capacity communications links and maintaining their integrity over otherwise indifferent local services. This expertise is being tapped by other industries for their benefit. For example, quite recently Tymshare Incorporated, whose British offshoot is 35 per cent owned by Unilever, has just signed a £1m contract to provide a U.S. private data network for TRW. It will have 20 nodes and link more than 30,000 users of the group's credit services to a data base of consumer and business credit information.

This will be connected to the international Tymnet, the largest public packet network in operation, functioning since 1971. It has 375 nodes (active communications processors) and provides access to 225 large host computers of 60 models with the ability to handle 2,200 simultaneous communications. Twenty-two countries outside the U.S. are connected.

Another form of expertise is in the tackling of problems that other groups are loth or unable to solve. One instance is the taming of the Cray computer—the most powerful machine so far brought into operation—by United Computer Systems of Dallas which has enabled its UK subsidiary, London United Computing Systems to claim to be the first to offer commercial services on this amazing machine.

In a similar vein is the aid provided in America by UCC to Hughes Aircraft which in August used the UCC computers at a Dallas centre to launch Western Union's third synchronous satellite into orbit.

This added Western III to the group's previous seven satellite projects and because of the extremely tough requirement of launch and move to station, it is no small feather in UCC's cap, particularly as the Univac machines run by the latter were not employed solely on the launch. This job is in sharp contrast with the serried ranks of machines at Kennedy, Houston and Huntsville, all dedicated to NASA launches.

On this side of the Atlantic, it is essential to note the expansion of GSI which recently took over the CRC Information Systems Organisation. The aim of GSI, which is essentially French-based, is to become the biggest service group in the UK by the turn of the decade. It already is in that position for the rest of Europe.

One of the services operated is for Infoline, the organisation set up in 1977 to create a major British technical, scientific and commercial database. The service is in the form of facilities management and will be worth several million pounds. So far, 6,000 Megabytes of Infoline information have been assembled.

It is not, therefore, a coincidence that GSI has become the first host bureau of Euronet after having been the first on the IPSS packet switching system—the UK Post Office's comparable system will be accessed soon. The main upshot is that any Euronet user can now gain entry to the Infoline data base, as one of the 100 or so bases available in the Euronet.

There is almost feverish activity taking place in communications/computing networks and the reason is not hard to find. Revenues from such activities are rising at a rate of 25 per cent annually—those of the world's six largest computer builders are growing at just over half that rate, namely 13 per cent.

That Europe is lagging to the present extent must be attributed in a very large degree to the narrow-minded parochialism of the respective PTT organisations.

Ted Schoeters

## Technology

CONTINUED FROM PREVIOUS PAGE

problems is to help in the lengthy and sometimes difficult job of converting from one system to another. Computel is a past master at this and is offering customers a site on which they can gain hands-on experience of new ICL machines during the run-up to conversion with transfer taking place when the bureau and the user are satisfied that all is well.

MSP Software Products has just disclosed that it will be providing somewhat similar support, but with the new IBM 4300 series.

There is nothing yet in Britain to compare with the large distributed system projects being undertaken in America by GEISCO where users can have as many as 180 terminals and 800 data screens under the Marklink segla. The end of the year should bring the number

of active users to close on 30. Apart from supporting users' data needs, some groups are plunging deeply into direct hardware marketing, as witness the involvement of Gamma Associates in a fast additional store described as "solid-state disc memory." Compatible with the DEC machines on which Gamma bases a great deal of its activities—though there are many Series 1s to come—it is about 100 times faster than cartridge disc sub-systems.

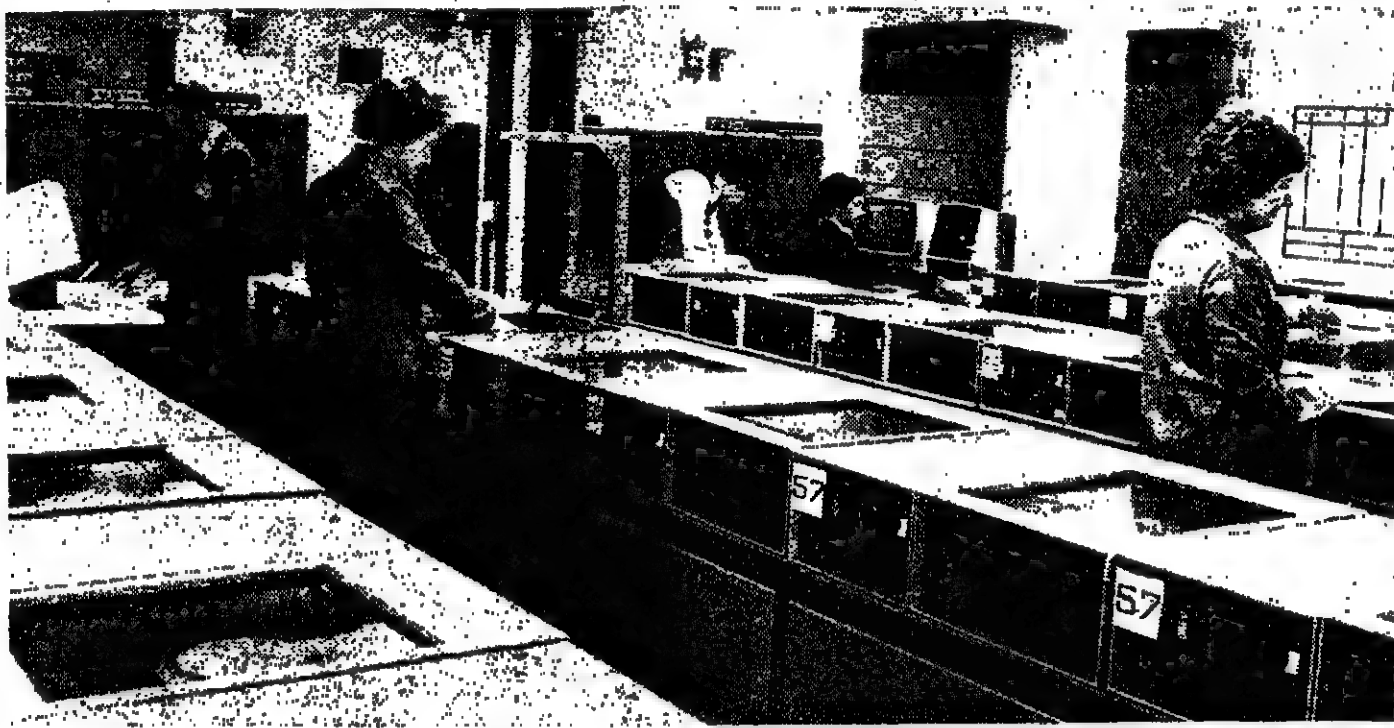
Some of the bureaux are plodding along in the same way as they were five years ago, supplying the traditional, reliable batch processing work they did then. And to those who might suggest to Data Sciences International that it is time they took to new technology, the management will

point to the Greene Report which puts them seventh in the list with profit margins of over 17 per cent after NMW Computers (28) ADP (22.14), Data Logic (22.10) Comshare (20.73) and Atkins On-Line (17.65 per cent).

One problem of concern to all suppliers of services is the continuing absence of any satisfactory means of protecting their heavy investment in software, particularly now that international trade in this intellectual commodity is so brisk.

An amendment to the present Copyright Act is long overdue and if the present administration did nothing more for the computer community than provide the needed protection, it would be remembered gratefully for many years to come.

T.S.



A section of the Unilever Computer Services Centre at Watford, where operators (in the foreground) are loading disk drives to run clients' computer programs. In the background are two of the centre's ITEL AS/5 main frames

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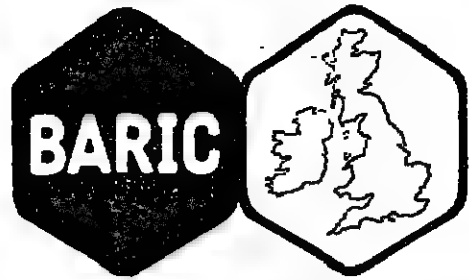
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# Questions on maintenance

**HARDWARE MAINTENANCE** services for their customers provide suppliers of mainframe computers with as much as 30 per cent of their revenues. The major computer manufacturers employ what can only be described as small armies of service personnel and some of their biggest customer installations have enough engineers permanently sited there to make up a football team.

So it is not surprising that independent maintenance companies have sprung up to take some of this lucrative business away from the major vendors by offering services that are sometimes more effective and nearly always less expensive—up to 30 per cent cheaper, in some cases.

Big IBM computer users, who outnumber all the others put together in most countries—Britain being one of the few exceptions—enjoy by far the best choice when it comes to deciding who is going to take care of their valuable hardware. Independent maintenance companies tend to concentrate on offering services to IBM users, not only because there are so many big IBM computers around, but also because IBM's attitude towards these third party maintenance firms is far more accommodating than that of most other big computer suppliers.

## Policy

Provided the computer is not reused, in which case it still belongs to IBM, the computer industry giant will allow its customer to bring in a third party to service the hardware, in place of its own engineers, and will even supply manuals and spare parts to the user without being awkward. IBM's accommodating policy is largely the result of the U.S. Government's strict anti-trust laws which have also persuaded the company to provide service users for any kind of IBM hardware located almost anywhere and at almost any vintage regardless of whether it is leased, purchased, leased from a third party lessor or brought from a used computer broker. If the user wants IBM service, he receives it.

One type of user who tends to look elsewhere is the IBM customer with a "mixed" installation where there are peripheral units, such as magnetic tape drives, card drives or line printers that are totally compatible with the IBM system but manufactured by an independent company. These plug-compatible manufacturers (PSMs) as they are called, usually have their own maintenance engineers who work at a customer's installation alongside, but not always in total co-operation with IBM's engineers. There is seldom serious hostility between the two groups, but not surprisingly the job of identifying the cause of a system failure can be more protracted when the various engineers involved have expert knowledge of only part of the system. Hence, the attraction of a third party maintenance company that is free to maintain any piece of equipment on the site.

Probably the most impressive example in this country of a user with a mixed installation going to a third party maintenance company was when British Airways showed IBM's engineers the door just over three years ago and brought in Data Processing Customer Engineering (DPCE), an Australian based firm that was already taking care of the IBM hardware at Qantas. At the time, most of the peripheral equipment used with British Airways' IBM computers was already from PCMs.

## Decision

Also decided last year to also dispose of the IBM central processors and to replace them with machines from the Amdahl Corporation which are able to run the programs from the IBM computers, more or less without modification, even though Amdahl itself could have provided engineers to service its processors. BA decided that DPCE should take care of all its IBM compatible computer hardware and the airline renewed DPCE's contract in September 1978, for five years. The contract was worth £4m at 1978 prices over the five-year period.

Smaller manufacturers of computers that are compatible with IBM machines, such as the Magnuson Corporation, which has just started selling its medium scale M80 machines in this country, can find third party maintenance firms very useful when they are breaking into new markets.

Magnuson, for example, has just sold two M80s to the Bangkok Bank in Thailand, as replacements for the bank's outdated IBM processors—and since Thailand is a new and remote territory for Magnuson the machines will be maintained there by a third party. In this case it is a firm called ITS, a subsidiary of SITA, the inter-airline network organisation.

No discussion of computer maintenance in Britain would be complete without mentioning ICL and without pointing out that ICL's policies relating to third party maintenance and, indeed, to maintenance in general, are regarded as being rather less accommodating than those of IBM.

## Spare

Mills Associates, a firm which services more than 50 ICL series computers all over the world, says that it has never bought spare parts from ICL itself, preferring to acquire them from what it describes as "other sources" rather than depend on ICL as a supplier.

Similarly, DPCE, which now also provides servicing for the other previous generation of ICL machines, the System 4 series (because they are quite similar in technology to IBM machines), says that rather than buying from ICL it obtains its parts from old System 4s that have been scrapped. According to DPCE it would have to wait nine months for an item ordered from ICL itself, while electronic parts from old System 4s are as good as new.

The ICL equipment user who decides to bring in an outside

maintenance firm has to pay ICL a one-off hire charge of £45 for the use of each service manual needed to keep his system running—and as many as 100 manuals can sometimes be required. Despite this extra expense, the services of a third party can still prove cheaper than ICL's, especially with older machines, because under ICL's standard contract the company only guarantees to maintain a machine for the first seven years of its life. At the end of that period a new maintenance contract can be drawn up, but the new charges will work out 20 per cent higher than before. Sometimes, the machine at all, even if it is still with its original owner.

## Problem

If the machine is second-hand and more than seven years old, ICL will normally refuse to maintain it, with the result that some used computer brokers have found themselves stuck with a warehouse full of old 1900s in good condition which potential users are reluctant to buy because ICL itself will not service them. Indeed, this ICL policy is the basis of one of several complaints that have been made about ICL to the Office of Fair Trading—complaints which could lead to an investigation by the Monopolies Commission.

But if a customer is prepared to accept third party maintenance on the old ICL machine the broker can make a sale, which is why such brokers tend to work in close co-operation with companies such as Mills Associates. Mills not only maintains old ICL machines in this country it also trains users of old ICL equipment in countries such as India where economies demand that old machines be kept in operation, even though ICL itself would dearly love to replace them with gleaming new hardware.

Keith Jones



ITT employs more than 300 staff in its computer-based message network, which is one of the world's largest operations on a high-density circuit board in the world's first system.

# European airlines are a major target

## PROFILE

Data Processing  
Customer Engineering

DATA PROCESSING Customer Engineering (DPCE), a member of the Datronics Group of Australia, seems to be striking it rich in the world of third-party maintenance.

DPCE—better known as "Deep Sea" to British Airways and Qantas—is making European airlines a key target.

When the Australian company ousted IBM from maintenance of £40m worth of equipment at Heathrow, it was regarded by some as a nine-day wonder and many queried whether DPCE would cope. But, according to Mr. Geoffrey Veal, BA's up-time has improved dramatically and the airline is receiving better hardware performance.

Mr. Veal, who is chief executive of DPCE, says "the availability of the system is better and BA has been able to reduce the amount of hardware that it had on site, particularly magnetic tape devices."

Another advantage gained is that British Airways has been able to introduce a number of suppliers on the computer floor and now uses equipment supplied by IBM, Memorex, Amdahl, Intel, Collins and CCL. According to Mr. Alan Jacobs, head of Computer Services at British Airways: "We are very satisfied with DPCE and they have done everything they claimed they would do. They have improved the hardware performance and have become integrated in our operation in such a way that this has made the whole operation flexible."

Since 1976, BA has probably saved £3m to £4m in acquisition of computer peripherals against purchase of IBM equipment. The big benefit is that the DPCE maintenance team, 31 in all, look after the total range of equipment.

"From the maintenance point of view it is the best-run computer installation in Britain," claims Mr. Veal. "With British Airways we have an extremely good rapport; BA take a great deal of interest in their equipment and how it performs, so we both have common objectives, to ensure maximum uptime."

The original BA maintenance contract comprised IBM 370/188, 380/85, Univac 494 equipment and some add-on memory. IBM 380/85 and Univac equipment has now been phased out by Amdahl V6 and V7 plug-compatible processors. Another maintenance

contract with BA worth £5m to DPCE, has been signed for a further five years to September, 1983, and this covers the entire set of IBM and plug-compatible equipment.

Last year the Australian company was given Federal Government recognition and presented with the 1978 Export Award, an annual event to mark excellence in export achievement.

It all goes back to the early 1970s when Qantas felt that there were interface problems between the two maintenance suppliers, IBM and Honeywell, and in 1974 DPCE took over the Qantas contract with total maintenance responsibility. The company's expertise in maintaining the Qantas installation was a major factor in the BA switch from IBM to DPCE.

Success of both Qantas and BA in terms of independent maintenance is attributed by DPCE to the support and the relationship that engendered with customers. In Australia, Qantas is similarly organised to British Airways. The two sides have regular meetings with plenty of feedback. Sometimes some of the faults bring difficulties—there may be a software hitch, or hardware malfunction. The software support comes from BA or Qantas, and the hardware support from DPCE.

So there is constant contact. Except for IBM and some plug-compatible suppliers, there are frequent difficulties when it comes to the supply of spare parts, maintenance documents and technical support. "Some suppliers have openly stated that they will make it sticky for us to get spares and this seems a strange attitude," comments Mr. Veal. "But British Airways has been very good in looking after its interests and helps us in putting pressure on suppliers."

Memorex has certainly co-operated with DPCE in Australia, and in the UK the relationship between them is good.

## Objective

IBM behaves very professionally and support to DPCE is excellent, adds Mr. Veal. IBM has an industry relations officer who makes sure that DPCE has the kind of service from IBM that it pays for. "To give IBM its due, a satisfied customer is number one objective regardless of who is doing the maintenance," comments Mr. Veal.

But a lot of other manufacturers do not react with the same maturity. "They perceive us as an enemy and if they lose the maintenance they lose a lot of contact with the site and

so, ultimately, lose the equipment—although, they need have no fears in this regard," according to the DPCE executive.

Looking at the site itself, DPCE carries an enormous responsibility for doing the maintenance for BA. "If the equipment was down for any appreciable length of time, it would be catastrophic to the airline's operation worldwide," says Mr. Veal. "BA might never recover, because just everything is on that computer—reservations, aircraft scheduling, crew scheduling, flight plans, and so on." However, there are tremendously effective fall-back procedures worked into the software/hardware and operating systems and it would take a major catastrophe to lose the who lot.

On the Qantas contract, DPCE has been having immense difficulties with one or two suppliers. Mr. Veal suggests that some suppliers are "merely interested in making a one-time sale to the customer and they do not seem to have the maturity, as I mentioned earlier, that IBM has."

Due to the high cost of spare parts supplied by manufacturers, one of DPCE's operations is to provide second-source spares. One of the methods of

CONTINUED ON PAGE VI

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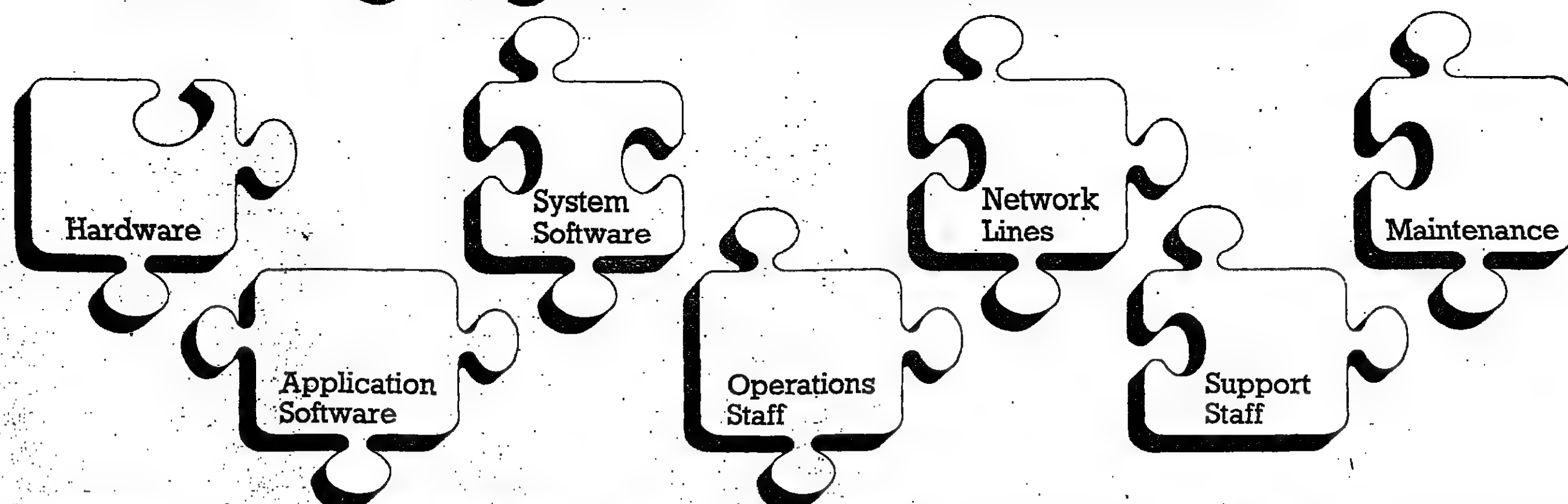


British Airways are "very satisfied" with the maintenance of £40m worth of computer equipment. Above: the



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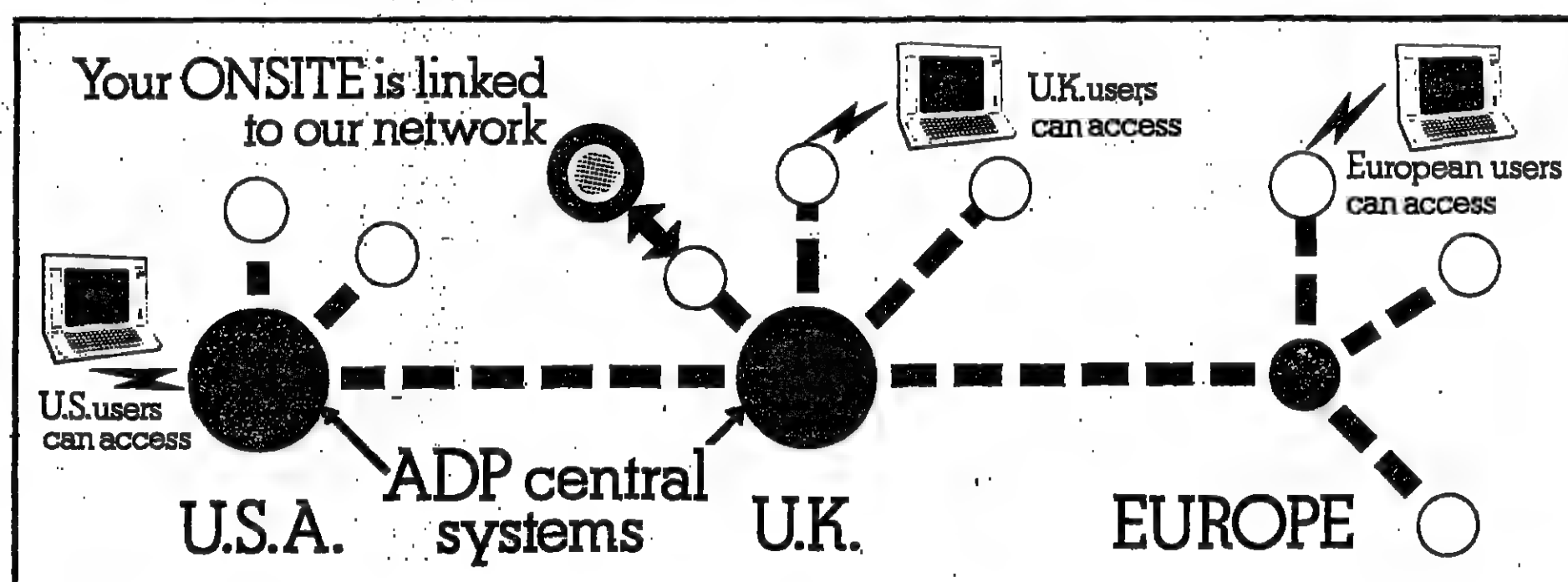
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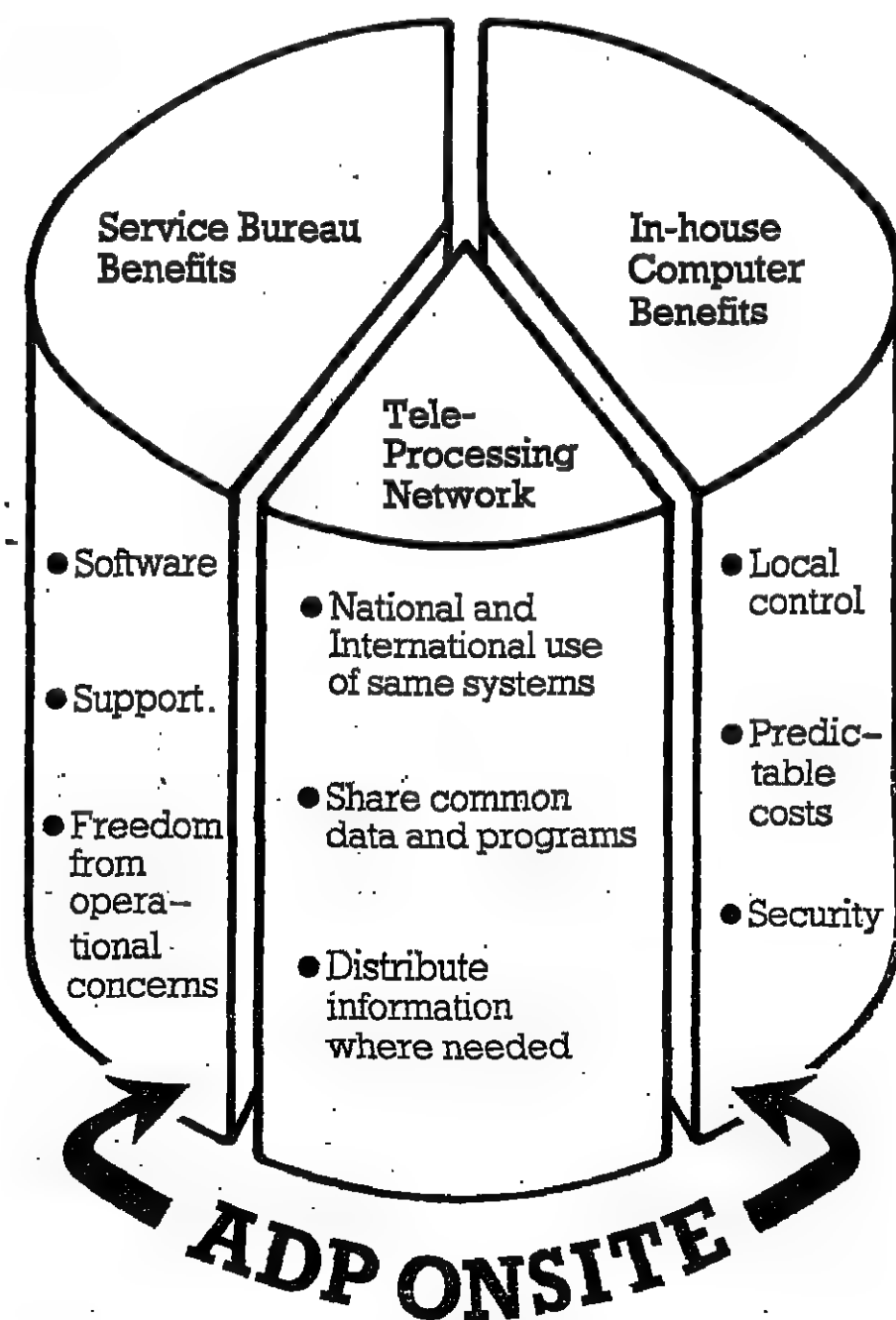
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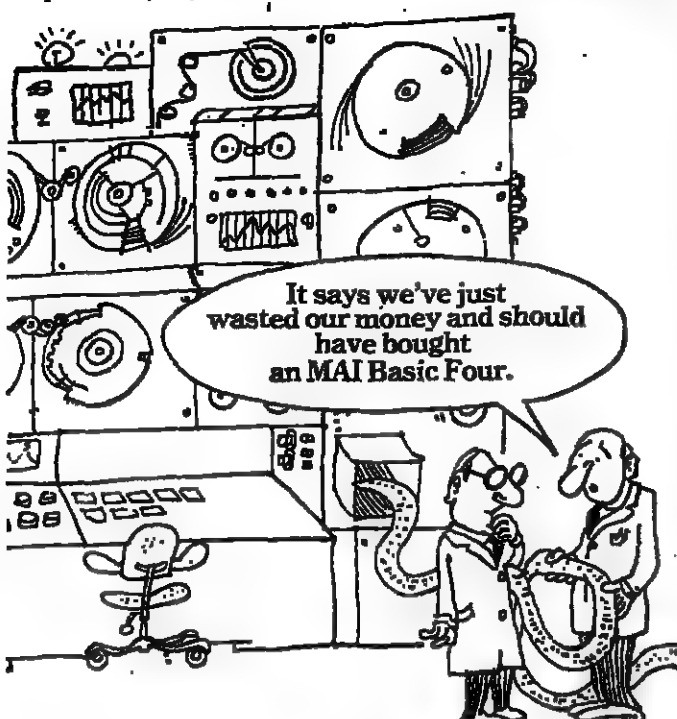
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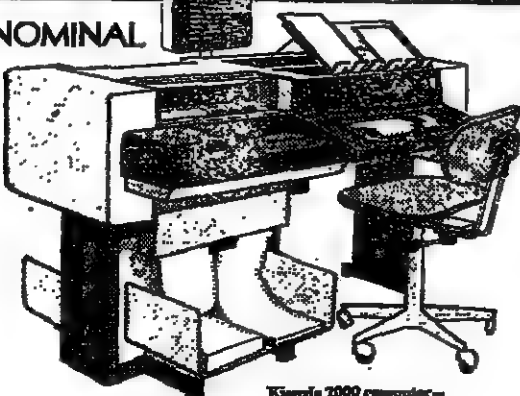
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FT 108

AMONG THE more recent recruits to the computing service industry have been offshoots from the automotive world.

The stir caused by British Leyland's entry into the field arises because of its extensive long-term training efforts in the past, coupled more recently to aggressive plans using fibre-optic communications systems, microwave communication systems and other advanced techniques.

The BL Systems firm complements the Lucas Logic service in computer-aided design which has been steadily winning customers far from the automotive industry.

The rules governing the successful computing services firm have not changed at all in the past few years. What has happened is that new candidates from the blue-chip sector of British industry have emerged which are well-qualified to enter and expand in the computing services arena.

It is sometimes assumed that the major factor governing the spinning-off of a subsidiary in computing related matters stems from the financial strength of the parent organisation. However, this is generally of only limited value in that it does something to ensure continuity of service. The main point was once well put by Mr. John Playter, director of RHM management services (derived from

Ranks Hovis McDougall) when he remarked that "if you hire lion tainers, then you had better give them some lions to tame."

In RHM's case the taming activity centred on the management of communications for data, complete with the adapted software to suit variable traffic loads impacting a computer centre. It was this kind of experience which quite naturally led to the operation and extension of an information retrieval service run on behalf of the British Library. The needs of literature researchers may seem far removed from the main business of RHM, but what connected them was extensive skills in combining different computers through telecommunications links to deal with rather unpredictable patterns of traffic.

Similar sets of skills, and a comparable pattern of resolving hardware and software problems under testing commercial pressures have given rise to both the BL and Lucas offshoots. The creation of outside customers, with their interests which are often far removed from the "family" industry serves to stimulate the skilled staff trained in various aspects of computing. In one company it has been talked of as "a continual exploration of many trades and industries, and, in some cases, of completely alien cultures."

## COMPUTER SERVICES VI

# Offshoots of the big users

Without such a challenge the staff would, perhaps, otherwise leave to join external computing service companies, thus depriving the training organisation of the greater value from the investment made in a person's most formative years. By creating a services offshoot in computing, the parent organisation is able to reverse the process by attracting "super-skills" which would otherwise always have to be hired from specialist firms.

### Affiliates

Observers of the international computing service scene will recall that all three U.S. aircraft builders — Boeing, Lockheed, and McDonnell Douglas have developed affiliates in computing. It is no accident that as computing has been generalised so that it is used broadly in less advanced high technology firms, so offshoots in computing should spring from a number of general industrial organisations.

For the intake of staff into computing within these parent companies there is appearing a double option. Those who wish to progress within the family industry can still do so. In fact, as computing becomes absorbed into the blood stream of general business it becomes a natural path to general operational management.

However, those staff who find the exploration of the frontiers of computing, in itself, an absorbing task can remain employed within the parent structure and yet develop, either technically, or managerially, in a fast growing industry.

For example, the Lucas Logic design techniques have led to extensive use of its automatic model maker for containers: typically these are articles found on supermarket shelves and nothing at all to do with cars or trucks. The automatic model-maker derives its feeding data from the graphics display-based studies and is itself controlled by a microprocessor. In this way, the real three dimensional prototype is rapidly produced from the more theoretical work carried out on the design computer system.

The early years of development within the computing service industry saw the first affiliates in this activity from major stock exchange names mostly derived from the financial sector. Perhaps the best-known name among this group is the Centre-file firm owned by the National Westminster banking group. This particular computing organisation has become a valuable training ground for managerial talent because of the very competitive nature of the market in computing services.

Since the banking world has a great need of well-rounded

young managers, the availability of a school for such talent, which in itself is a profitable service business, is a major asset to the parent bank. Among the very oldest service firms in computing are the affiliates of the BOC group and of British Petroleum. The BOC Datasolve group in computing has recently added a major software development firm in Software Sciences and this also adds a mechanical engineering support struts to the BOC bow by including Software Sciences Engineering within it, which has developed a system of computer support for design which merits attention.

From the BP umbrella, the two arms of Seicon are part of the 20-year-old fabric of computing services, spanning both bureaux operations and software and systems development. As more and more users of computing service firms seek to determine a stable source of computing skills to support applications which are critical to the health of their businesses, the attractions of a firm which is based in a larger grouping become more compelling, year by year.

But the benefits of financial soundness extend to the matter of software supply for users. The topic of financial planning via computing has been extensively studied in the U.S. and it is wasteful to repeat the basic investment in Britain. The Hill

Samuel banking group subsidiary in computing services—Lowndes-Lux—has accordingly joined its UK market to U.S. sources of experience.

The further development of these techniques becomes more certain with pan-Atlantic support and users on both sides of the water will benefit. Although Lowndes-Lux sought this deal on its own initiative the backing of Hill Samuel must have encouraged the U.S. party in picking a European partner. Similar considerations tend to apply to deals with continental equivalents in computing services and these are becoming more common every month.

In some senses, it can be stated that the French set the pattern for the growth of the British computing "parental" strengths when, at the instigation of the French Government, several years ago, there were major consolidations in France, most of which secured an umbrella from existing financial or industrial complexes.

Although the era of the independent in computing services is never likely to come to an end, the balance of advantage has shifted markedly to groupings simply because of the better understanding that exists of how to measure the performance of a computing entity, and how to plan for its growth.

Hedley Voysey

# Springboard for expansion

FEW COMPUTER bureaux regard themselves as being in the classic wholesaling mould any longer. That is to say, that their function of "breaking bulk" is a minor one, although that is historically where the idea of a bureau came from.

But since computing power is not confined to very expensive centres and is, now, through microcomputing and personal microcomputers available, in one form or another, to businesses at remarkably low levels of capital expenditure, the bureau in computing has taken on a new guise.

Basically, the current concept of a bureau rests on the ease and rapidity with which a user can tackle the next most urgent problem which has caught the attention of its senior management. A typical computer bureau has long since become accustomed to taking on board users which already have a computer within their organisation.

Several bureaux currently seek to reverse this process by building up a work load using the bureau machine and then, making a sale—as an agent—of a machine able to do much of this load without using the communications links to the bureau. For what has been discovered is the law of the exploding computing universe. However heavy the existing computing load, the list of desirable applications of computing is always greater than the set of what has been done so far.

Basically, the great access-

ibility of current computers has merely served to carry out the much-needed introduction of business to an understanding of what is feasible.

An extreme example of the connection between the very cheap personal computer, which can be bought through a large hi-fi store, and the large computing bureau, can be seen in the use of the personal machine to exploit its programmable competence so as to access several different bureaux.

The microcomputer and store contained in the personal machine can be used to ameliorate the diversity of procedures required to access different bureaux.

Several kinds of operating systems used by large central machines can be made to look very similar to the user of the personal computer. The microcomputer can also be used to remember the correct telecommunications rituals followed in differing countries and also to keep an accurate accounting log of which facilities have been used and exactly when.

As time goes on for a user of several bureaux, it becomes increasingly important that the terminal used should be able to insulate the user from nearly all the changes made to the services consumed through remote linkages. This creation of a stable floating platform for the user demands the use of a microprocessor within the terminal and the use of programs supplied by the bureau bidding for custom as part of the connection service.

In the long run it is to be hoped that standardisation efforts will minimise the range of differences involved in switching from one network of computers to another. However, the competitive instincts of service firms will always ensure that what is freshly attractive is likely to be slightly different in the context of the user.

The executives in computer bureaux tend to regard it as unthinkable that there is any final pattern to computing use.

What is more, they believe that the user's experience of careful costing, marketing, con-

tinuous development, education and sheer opportunism is an unbeatable guide for the business which wants to know just how to do anything related to computing. It has been the bureaux which have made all the running in letting users experiment with simply constructed databases, created from existing files which were however, not accessible to many users for development purposes.

### Strategies

The bureaux have through this (relatively expensive) technique helped plan many longer term strategies for in-house development by organisations, which would otherwise have been left to conjecture as to what was useful as a database. Many users still transfer some files to a bureaux for special manipulation and interrogation. Several production management schemes would never have been designed to run on local computers if the trial design had not been achieved on a bureau in the first place.

The early trails of distributed files within a number of businesses are taking place in the same way. First, some section is being accessed after transfer to a bureau, and then, if all is well the principles of "divide-and-conquer" will be applied to the main computer strategy on the organisation's own machines, the specification of which should be made easier by the pilot plant experience of using a bureau.

In some cases, the bureaux are investing in special development software to enable the development of systems to be appreciated by all grades of user staff liable to operate a visual display unit. This enables the difference in use to be established between the regular display terminal operator, and the occasional user of such a display, who will need more help to ensure that correct answers are obtained from stored files.

The development of a variety of dialogues through visual display terminals to suit different parts of the system, and different classes of user, is easier

to do via bureaux. In some cases, the basic version of the final system is actually installed on very small business computers indeed, but the programming can take full account of the fact that the specification has been exhaustively experienced, as well as discussed, during the bureau based evolutionary phase.

In organisations where private forms of viewdata are being planned and installed, it seems likely that connection of these services to an external bureau will be one of the better ways of establishing whether the computational enhancement of a viewdata service is really desirable.

The British Post Office's public form of viewdata, Prestel, poses a puzzle for the bureaux world. The slow development of this service means that it is difficult to see how connections to it might be

usefully planned.

Since the costs of Prestel units are now roughly comparable to that of a personal computer, the Prestel development gain is seen by some purely as the availability of a connection (via what is called a modem) to telephone lines which can be bought without direct recourse to the Post Office.

Since the Post Office has specifically stated that it does not regard the Prestel service as part of its monopoly, there is also a fear by some bureaux that private rivals to Prestel, intended however for public use, could come from the most multinationals in the industry. It is still quite unclear as to what kind of services would be legal through the public offering of rival services to Prestel.

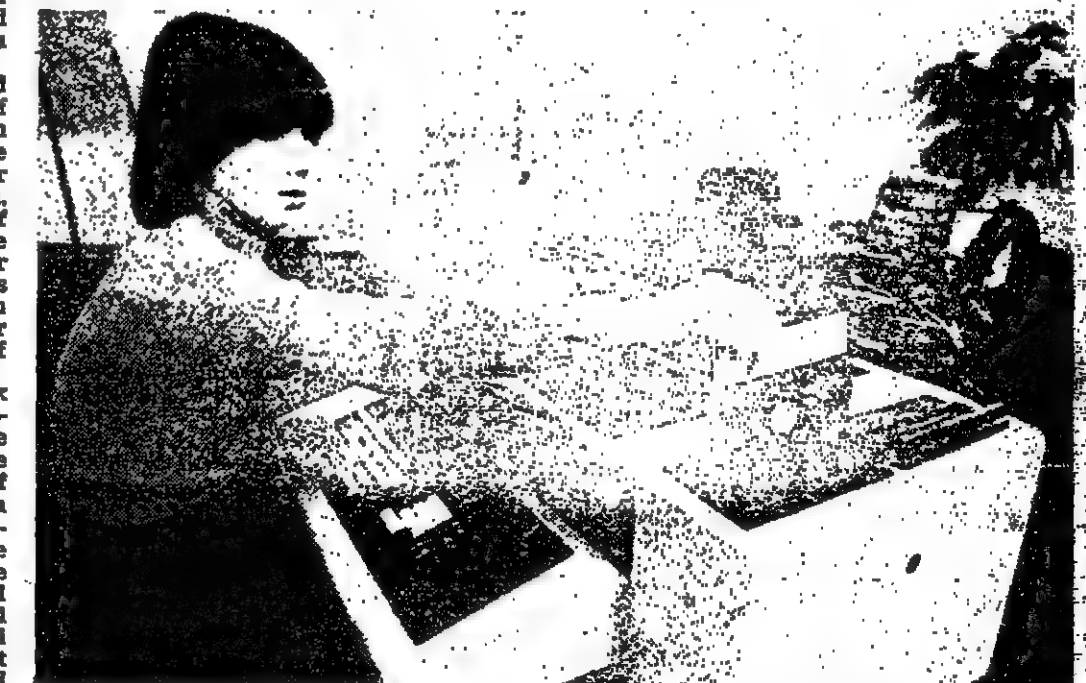
The impending clarification by the Department of Industry as to the extent of the monopoly exercised by the Post Office

would be welcome by the computing bureaux industry. However, it might lead them into a head-on clash with really massive technological companies.

For the time being, the bureaux welcome all developments which enhance the use of any type of computing. The struggle in the past has stemmed from the inability of many business executives to know what computing could do for them.

With this barrier down, the bureaux feel that building a market for their services, even though these have to continually develop, is always possible. They believe that bureaux act as a springboard for expansion, development and the special services which individual companies need.

Hedley Voysey



This visible-record computer in the Kienzle 2200 series (aimed primarily at the first time user) combines the advantages of magnetic stripe cards and floppy discs. The cards retain the benefits of having a hard copy record, while discs enable more than one record to be accessed simultaneously.

## Target

CONTINUED FROM PAGE IV

doing this is to purchase second-hand equipment which is then broken down into a spare parts inventory. This inventory is then maintained by repair or additional purchases when it is used. As Geoff Veal puts it: "We bought some Honeywell computers for ourselves, just to raid them for spare parts which is one way of getting round it. Amdehl circuit boards are extraordinarily expensive to us, and IBM boards, although readily available, are just as expensive. So we do consciously buy second-hand machines to obtain spare board supplies because this is cheaper."

"We also do some board repair—we replace a faulty board in a computer, and bring it back to our workshop and then replace an individual component. So, as far as the customer is concerned, DPCE does endeavour to improve its supply position and to keep prices down."

In costing a site and preparing a quotation, the maintenance company states that it does not cut the supplier's price. Its price is based on the actual cost of maintaining the equipment, including such items as spares usage, spare inventory cost, labour costs, training and so on. In most cases it comes out 10 per cent to 20 per cent less than the mainframe suppliers' maintenance cost for the equivalent maintenance service.

At times DPCE is called in to "shake up" the existing maintenance, as happened on one installation in Melbourne. The customer informed the supplier of his intention to change to DPCE and the end-result was that the supplier agreed to provide maintenance at a saving of \$30,000 a year on the current charge.

The very presence in the market place of companies such as DPCE appears to act as a regulator and this has probably helped to stabilise maintenance prices.

Some of the moves to combat third party maintenance are interesting. IBM normally offers 12 months "free" maintenance in the selling price of the central processing units. Providing the intended purchaser of the equipment from any manufacturer insists that the supplier agrees to provide the necessary support, such as the provision of spares, documentation and training to a third party maintenance company, then the purchaser leaves his option open to use third party maintenance, if he wishes to do so.

Before the purchase agreement is signed, most suppliers will agree to comply with the purchaser's requests, but this is not necessarily so after the pur-

chase agreement has been signed. DPCE points out. "BA has been successful in selling software packages worldwide and Saudi Arabian Airlines has been sold a management facility for its reservations system which is run on BA equipment at the West London Terminal which DPCE maintains."

The majority of airlines in the world have purchased their equipment from IBM mainly because of the PARS/IFARS reservation system. DPCE has the European airlines in its sights but intends to tackle the U.S. market and will be talking to a number of large American airlines.

Another avenue for the maintenance company will be the U.S. Government agencies. Diatronics has an operating company in Manila and Singapore, where it has had talks with the South East Asian airlines on third party maintenance. In Hong Kong, the company is looking into the possibility of marketing small business computers and word processing equipment.

New business for the company in Britain is progressing and the signing of a contract with Exeter University heralds the UK division's entry into the IGL 4 market.

Marlene Brown

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